

BURNOUT AND ENGAGEMENT IN A SOUTH AFRICAN UNIVERSITY STUDENT SAMPLE – A PSYCHOMETRIC ANALYSIS

Carina Gauché, Hons. Soc.Sc.

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Study Leader: Dr J. Pienaar

Assistant Study Leader: Dr K. Mostert

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NOTE TO THE READER

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

The mini-dissertation is submitted in the form of a research article. The name of the study leader appears on the article as it was submitted for publication. The editorial style specified by *The South African Journal of Industrial Psychology* is used, but the APA guidelines were followed in preparing the tables.

PREAMBLE

I would like to acknowledge the following people, without whom this thesis would not have been possible:

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ABSTRACT

Subject: Burnout and engagement in a South African university student sample – A psychometric analysis

Key terms: Burnout, engagement, students, learners, university, tertiary institution, Maslach Burnout Inventory – Student Survey (MBI-SS), Utrecht Work Engagement Scale – Student Survey (UWES-S), previous validation studies

In recent years, the concept of burnout has been expanded and is currently a concern in all professions and occupational groups. Nowadays it is widely acknowledged that people in almost any occupation could develop burnout. To-date, only two studies have examined students' experiences of burnout. Therefore, research regarding this phenomenon in students seems warranted. The objective of this study was to firstly investigate the psychometric properties of adapted versions of the Maslach Burnout Inventory and Utrecht Work Engagement Scale in a sample of students from a tertiary institution, and secondly to consider the role of biographical variables in relation to burnout and engagement levels.

A cross-sectional survey design was used to attain the research objectives. For the purposes of this study, an availability sample of students (N=353) majoring in Organisational Behaviour was drawn at one point in time. The adapted Maslach Burnout Inventory – Student Survey (MBI-SS) and the Utrecht Work Engagement Scale – Student Survey (UWES-S) as well as a biographical questionnaire were administered.

Structural equation modelling confirmed two-factor models of Burnout (consisting of Exhaustion and Cynicism) and Engagement (consisting of Vigour and Dedication). Biographical variables which appear to be predictive of differences in levels of student burnout are home language, overall health status and consideration given to quitting their studies, while engagement is related to home language, academic year of study and consideration given to quitting studies.

Recommendations for future research were also made.

OPSOMMING

Onderwerp: Uitbranding en begeestering in 'n steekproef van Suid-Afrikaanse-universiteitstudente – 'n Psigometriese analise.

Sleutelterme: Uitbranding, begeestering, studente, leerders, universiteit, tersiêre instansie, Maslach Uitbrandingsvraelys – Studente-opname (MBI-SS), Utrecht Werkbegeesteringskaal – Studente-opname (UWES-S), voorafgaande validasiestudies

Die konsep van uitbranding het oor die afgelope tyd uitgebrei en is tans 'n kwessie wat in alle professies en beroepe te voorskyn kom. Vandag is dit algemeen bekend dat mense in bykans enige beroep uitbranding kan ontwikkel. Slegs twee vorige navorsingstudies oor studente se ervaringe van uitbranding is tot op datum onderneem. Derhalwe is navorsing wat hierdie verskynsel by studente ondersoek van groot belang. Die doel van hierdie studie was om eerstens die psigometriese eienskappe van aangepaste weergawes van die Maslach Uitbrandingsvraelys en die Utrecht Werkbegeesteringskaal in 'n steekproef van studente aan 'n tersiêre instelling te ondersoek, en tweedens om die rol van biografiese veranderlikes in verhouding tot uitbranding en begeestering te ondersoek.

'n Dwarssnit opname-ontwerp is gebruik om die doelwitte van die studie te bereik. Vir die doeleindes van hierdie studie is 'n beskikbaarheidsteekproef (N=353) op 'n spesifieke tydstip getrek van studente wat Organisasiegedrag as hoofvak het. Die aangepaste Maslach Uitbrandingsvraelys – Studente-opname en die Utrecht Werkbegeesteringskaal – Studente-opname asook 'n biografiese vraelys is afgeneem.

Strukturele vergelykingsmodellering het ekwivalente tweefaktor modelle van Uitbranding (bestaande uit Uitputting en Sinisme) en Begeestering (bestaande uit Energie en Toewyding) bevestig. Biografiese veranderlikes wat verskille in uitbranding by studente voorspel is huistaal, algehele gesondheidstoestand en die oorweging wat 'n student daaraan gee om sy/haar studies te staak, terwyl begeestering verwant is aan huistaal, akademiese jaar van studie en die oorweging wat 'n student daaraan gee om sy/haar studies te staak.

Aanbevelings vir toekomstige navorsing is ook gemaak.

CHAPTER 1

INTRODUCTION

This mini-dissertation deals with the validation of the Maslach Burnout Inventory – Student Survey and the Utrecht Work Engagement Scale – Student Survey. It also focuses on the relationship between burnout and engagement in a sample of South African university students.

In this chapter, the motivation for the research is discussed in terms of the problem statement. Subsequently the research objectives of the study are presented, followed by the research methodology, the research procedure and the division of the chapters. Finally a chapter summary is given.

1.1 PROBLEM STATEMENT

The concept of burnout, which was initially closely linked to human services such as health care, education and social work, where people work in situations where they are in constant involvement with other human beings, has been expanded to all professions and occupational groups. Nowadays it is widely acknowledged that people in almost any occupation could develop burnout. Research regarding this phenomenon in students seems not only relevant but also necessary, for these young people are the future employees of South Africa (Van der Merwe, 2003). Previously it was believed that students cannot experience burnout, but this belief has been proven invalid (Balogun, Helgemoe, Pellegrini, & Hoeberlein, 1996). The environment in which students function nowadays demands more of them than ever before. Burnout among students refers to feeling incompetent as a student, having a cynical and detached attitude towards one's studies and feeling exhausted because of study demands. Student burnout can be considered an erosion of academic engagement (Schaufeli, Martínez, Pinto, Salanova, & Bakker, 2002). University students may in fact experience the burnout phenomenon due to learning conditions that demand excessively high levels of effort and do not provide supportive mechanisms that would facilitate effective coping (Neumann, Finaly-Neumann, & Reichel, 1990).

Stress has been shown to be correlated with students' health behaviours (Weidner, Kohlmann, Dotzauer, & Burns, 1996), anxiety concerning exams (Abouserie, 1994), self-esteem (Newby-Fraser & Schlebusch, 1997), and coping strategies that students use (Dwyer & Cummings, 2001). The research of Maslach and Jackson, which proves that stress is an important component of burnout, is relevant to the development of a model of burnout among students (Maslach & Jackson, 1981). Factors such as attending classes, writing exams, searching for employment and extracurricular activities are likely to cause students to experience high levels of stress. Much more research is needed to determine the prevalence of burnout, to identify important intra- and interpersonal factors that influence burnout, and to develop effective interventions to prevent and reduce burnout in students.

Snelgar (1990) defines stress as an individual's reaction to those characteristics of the work environment which appear threatening to him/her. Stress points to a perceived incompatibility between the individual's capabilities and his/her work environment in which either excessive demands are made upon him/her or he/she is not fully equipped to handle particular work situations. 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). An individual's quality of life is dependent upon his/her ability to adjust to, and cope with, a wide range of demands. Failure to do so may result in the impairment of health and behaviour. If stressors are not dealt with and the negative situation is prolonged, the individual suffering from the stress will develop serious health problems, including headaches, depression and other health-related problems such as influenza, sore throat and backache (Westen, 1996). People under stress also tend to drink more alcohol, smoke more cigarettes and sleep and exercise less than their peers (Maslach & Jackson, 1982). The result of prolonged stress is burnout. Cilliers (2002) states that burnout is not the same as stress. There are no sharp boundaries between burnout and other related concepts 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 concept "burning out" (depleting one's resources), which refers to 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). According to Govender (1995), stress can lead to

burnout, but not all people who are stressed burn out. Burnout can be regarded as the final step in the progression of inadequate attempts at coping in chronically stressful situations.

South African students are faced with some unique challenges and changes in their tertiary education system. On 28 February 2003, an article was published on the South African Official Gateway Website stipulating the planned changes to South Africa's tertiary educational institutions (SouthAfrica.info Reporter, 2003). The decision was made to restructure the sector in order to solve problems of duplication, fragmentation, lack of access and to improve the quality of education on offer. Key goals of the restructuring process include increasing the number of students in the system over the next 10 to 15 years, increasing the number of black and female students in under-represented areas, establishing centres of excellence, and reducing the number of institutions from 36 to 22 through institutional mergers.

Although students are not directly involved in these changes, it does create a distraction for them. With the influx of students at institutions, classes tend to become bigger. Lecturers in turn have to divide their attention between more students which implies a decrease in the amount of individual attention a lecturer can give to a student. When two institutions with different language policies merge, the issue arises about deciding which language will be adopted. In some cases where a dual-language policy is adopted, the workload of the lecturer increases even more, thus further reducing the possibility of attending to the needs of individual students. Where a single-language policy is implemented, some students might decide either to find another institution, or to adapt to the new language environment.

Students strongly identify with their learning institutions by showing pride in and loyalty to that specific institution. This in turn motivates them to perform to the best of their ability. Where two institutions merge, one institution (the smaller one) could likely lose its identity and be sucked up by the larger institution. Students from the smaller institution may become detached, which in turn may cause them not to perform as well as they previously did, simply because they are reluctant to relinquish the individual association they enjoyed with the previous institution.

Some institutions in the new dispensation will function as a "comprehensive institution", offering university of technology (previously known as "technicon")-type programmes as

well as a range of relevant university-oriented programmes. In principle this is a good idea, but the possibility of student clashes are increased as the perception may develop that students participating in the university-type programmes receive superior tuition. Whereas in the past most higher education students in the country were white, now nearly 60 per cent are black (SouthAfrica.info Reporter, 2003). Adapting to an unfamiliar culture and foreign customs and beliefs places extra strain on students.

Burnout

The problem of burnout among workers has been studied for over 30 years. Research done as far back as the early 1970s (Freuderberger, 1974, p. 159) defined burnout as “to fail, to wear out, or become exhausted by excessive demands on energy, strength or resources”. The concept of burnout itself only gained more recognition and acceptance in the 1980s (Cherniss, 1980; Edelwich & Brodsky, 1980; Maslach, 1982). According to Maslach (1978), burnout is the result of repeated emotional pressure related to involvement with people and is characterised by emotional exhaustion, depersonalisation (a detachment from those around you) and reduced personal accomplishment. Burnout can therefore be viewed as a stress-related illness of those in any profession where constant involvement with people is a critical aspect of their work.

There is no single definition of the term burnout. However, the definitions given below provide a comprehensive description of the term. Burnout is described as a persistent, negative, work-related state of mind (or syndrome) which develops gradually over time in individuals who were highly motivated, striving, achieving and non-compromising, with good intentions and high expectations (sometimes out of touch with reality), who stretch themselves beyond the normal work boundaries for a long period of time in their quest for meaning (Cilliers, 2002). The individual then develops an array of physical, psychological and attitudinal symptoms, primarily emotional exhaustion, accompanied by distress, depersonalisation, a sense of reduced effectiveness, decreased motivation and dysfunctional personal and societal attitudes and behaviours at work.

Three distinct symptoms of burnout have further been described, namely emotional exhaustion, a decreased sense of professional efficacy and cynicism (Barnett, Brennan, & Gareis, 1999). Whereas depersonalisation is a cynical attitude held towards other people, the

broader construct of cynicism was developed to gauge a generally cynical attitude towards one's work and elements thereof (including co-workers and recipients of services). 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 accomplishments fall short of your own expectations, leading to negative self-evaluation of performance (Barnett, et al., 1999). Exhaustion 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). Reduced professional efficacy can be seen as a decline in one's feelings of competence and successful achievement. Individuals experiencing this dimension of burnout view themselves negatively in terms of both their ability to perform their jobs and their ability to have personal interactions (Cordes & Dougherty, 1993). According to Maslach and Leiter (1997), individuals experiencing diminished professional efficacy trivialise 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.

When counsellors or advisors are faced with a student who appears to be suffering from burnout, it is important to recognise that the student may be experiencing feelings of depersonalisation (cynicism) and a reduced sense of accomplishment, in addition to emotional exhaustion. A common prescription might be to suggest that the student "lighten the load" by dropping a course, cutting back on extracurricular activities, spending less time socialising with friends, or reducing hours of employment. Reducing extracurricular activities, or perhaps even reducing hours of employment, may reduce the student's level of interaction with supportive friends and thus exacerbate burnout. Similarly, dropping a course might be experienced as failure by some students and thus contribute to a sense of reduced personal accomplishment. A more effective approach might be a thorough analysis of the student's weekly activity schedule and a focus on effective time management strategies. Efforts should be made to promote or maintain important social relationships, rather than to reduce extracurricular activities.

The causes of burnout are somewhat complex and are associated with two separate factors, namely the work environment and the individual. For instance, 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. Burnout has been related to turnover, absenteeism, and low morale of employees (Barnett, et al., 1999). In students, burnout influences academic performance and could place academic futures in jeopardy (Struthers, et al., 2000). Therefore burnout 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). Micklevitz (2001) also concluded that these professionals may become frustrated when they do not achieve their unrealistic expectations, or may not yet have developed coping strategies that aid them in tolerating stress. This in turn may lead to apathy towards their job and eventual burnout.

Job stress is commonly attributed to external factors related to the work environment, such as work demands, working conditions and poor supervision. Maslach and Jackson (1981) emphasised the psychological nature of the burnout syndrome, rather than the physical work environment. Subsequent research has substantiated their theory by demonstrating the importance of internal (e.g. personality) and interpersonal (e.g. social support) factors as well as external factors (e.g. workload).

Engagement

The new trend in burnout research is the shift towards its opposite, namely engagement or job engagement. This forms part of a more general movement towards "positive psychology" which focuses on human strengths and optimal functioning, rather than on weaknesses and malfunctioning (Seligman & Csikszentmihalyi, 2000). Seen from this perspective, burnout is rephrased as an erosion of engagement with the job (Schaufeli, Salanova, González-Romá, & Bakker, 2002).

Research on the engagement concept has taken two different, but related paths. Maslach and Leiter (1997) show that work which starts 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.

Schaufeli, Martínez, et al. (2002) agree with the interrelationship as proposed by Maslach and Leiter (1997), but define and use the term engagement in its own right. Schaufeli, Martínez, et al. (2002) consider burnout and engagement to be opposite concepts that should be measured independently with different instruments. In this framework, burnout is characterised by a combination of exhaustion (low activation) and cynicism (low identification) whereas engagement is characterised by dedication (high identification) and vigour (high activation). Schaufeli, Martínez, et al. (2002) define engagement as a fulfilling, positive, work-related state of mind that is characterised by dedication, absorption and vigour. Engagement refers to a more persistent and pervasive cognitive state that is not focussed on any particular object, event, individual or behaviour.

Three dimensions of engagement are distinguished. Firstly, Dedication is characterised by a sense of significance, enthusiasm, inspiration, pride and challenge. It refers to a particularly strong involvement that goes one step further than the usual level of identification. The next dimension is Absorption, which is a state characterised by individuals being fully concentrated and happily engrossed in their work, and as time passes they quickly feel carried away by their jobs. Being fully absorbed in work goes beyond merely feeling efficacious and comes close to what has been called flow - a state of optimal experience that is characterised by focussed attention, a clear mind, effortless concentration, mind and body unison, complete control, loss of self-consciousness, distortion of time, and intrinsic enjoyment (Csikszentmihalyi, 1990). However, flow typically refers to rather particular, short-term peak experiences, instead of a more pervasive and persistent state of mind, as is the case with engagement. The last dimension in engagement is Vigour, which is characterised by high levels of energy and mental resilience while working, together with the willingness and ability to invest effort in work (Schaufeli, Martínez, et al., 2002).

When investigating the relationship between engagement and academic performance, it seems plausible that vigorous and dedicated students, who are energetic and immersed in their studies, are successful. As for burnout, it seems that generally speaking, the relationship with performance is rather weak and inconsistent, particularly when objective performance indicators are used, instead of self-reports or supervisor ratings (Schaufeli & Enzmann, 1998). This also applies to the relationship between student burnout and academic performance. Nowack and Hanson (1983) found a weak negative relationship between burnout and performance, as rated by peers, in college students. Stewart, Lam, Betson, Wong, and Wong (1999), using a longitudinal design, found that academic performance during medical school was negatively related to reported stress levels (i.e. anxiety and depression). Schaufeli, Martínez, et al. (2002) found that academic performance (i.e. the ratio of exams passed in the previous term relative to the total number of exams) is negatively related to burnout and positively related to engagement. Students who feel efficacious and vigorous are more likely to perform well compared to those who feel less efficacious and vigorous. These results agree with studies among students that found that self-efficacy (Newby-Fraser & Schlebusch, 1997) and task-oriented coping (Edwards & Trimble, 1992), which are both conceptually related to efficacy, are positively related to academic performance.

Research by Marais and Kirsten (1999) revealed 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. Although definitions of burnout differ in scope and precision, they share at least some common elements such as fatigue, depression and mental or emotional exhaustion. The emphasis is also on mental and behavioural symptoms rather than physical symptoms. 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, Maslach, & Marek, 1993).

Van der Merwe (2003) found that 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 (ineffective coping skills, a lack of recognition and social support) experience higher exhaustion.

Validity studies of burnout and engagement instruments

Engagement is theoretically regarded as the opposite end of the continuum from burnout, but cannot be measured effectively by the Maslach Burnout Inventory (MBI). The Utrecht Work Engagement Scale (UWES) (Schaufeli, Martínez, et al., 2002) was developed for this purpose.

Schaufeli, Martínez, et al. (2002) examined the psychometric structure of the MBI-SS (Maslach Burnout Inventory – Student Survey) and the UWES-S (Utrecht Work Engagement Scale – Students) in a sample of university students from three different European countries, using confirmatory factor analysis. These versions are very close to the original, except that they have been adapted to reflect the experiences of students. Schaufeli, Martínez, et al. (2002) supported the three-factor structure, albeit after removing three unsound engagement items and allowing some error terms to correlate. The fact that they failed to demonstrate complete factorial invariance of the MBI-SS in student samples from different European countries stands in contrast to the positive results obtained with the other versions of the MBI (Schaufeli & Janczur, 1994). The results concerning the invariance of the UWES-S were more encouraging, and the UWES-S is partly invariant across samples. It was suggested that a next step in research would be to investigate the relationship of the engagement scales with job- or study-related variables in a similar fashion as had been done with burnout.

A review of the literature revealed that only one study has been undertaken to date in South Africa utilising the burnout and engagement constructs in a sample of tertiary students (Sieberhagen & Pienaar, 2005). Further validation of the constructs thus seems warranted. The objective of this study is therefore to investigate the psychometric properties of adapted versions of the burnout and engagement questionnaires in a sample of students from a tertiary institution. The rationale lies in the fact that suitable instruments could play an important role in assisting students who are experiencing problems regarding subject decisions and counselling.

1.2 RESEARCH OBJECTIVES

Arising from the problem statement described above, the following general and specific objectives are set for this research project.

1.2.1 General objective

The general objective of this research is to validate the Maslach Burnout Inventory – Student Survey, (MBI-SS) and the Utrecht Work Engagement Scale – Student Survey (UWES-S), for students at a tertiary education institution in South Africa, and to investigate the influence of biographical variables on students’ experience of burnout and engagement.

1.2.2 Specific objectives

The specific research objectives are to:

- Conceptualise burnout and engagement, as pertaining to students, from the literature;
- Determine whether the MBI-SS and the UWES-S show structural equivalence for a multicultural group of South African university students;
- Investigate the role of biographical variables in students’ experience of burnout and engagement;
- Make recommendations for the use of the MBI-SS and the UWES-S with South African university students.

1.3 RESEARCH METHOD

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

1.3.1 Literature review

A complete literature review is undertaken on the following aspects: burnout; engagement; students; learners; university; tertiary education, MBI-SS, UWES-S and previous validation studies. The following resources were consulted:

- Library catalogues
- Academic search lists
- The Internet and international journals
- RGN Nexus: current and completed research
- PsychINFO

1.3.2 Empirical study

The empirical study comprises the research design, the participants, measuring instruments and statistical analysis.

1.3.2.1 Research design

A cross-sectional survey design, whereby a sample is drawn from a population at one point in time (Shaughnessy & Zechmeister, 1997), will be utilised to attain the desired research objectives. Information collected will be used to describe the population at a specific point in time and can thus be used to indicate current levels of burnout of the participants. According to Naudé and Rothmann (2004), this type of design is appropriate where groups of subjects, in this case, students from different year groups and various fields of study at various stages of development, are studied simultaneously. This design can also be used to assess interrelationships among variables within a population. According to Shaughnessy and Zechmeister (1997), this design is ideally suited for addressing the descriptive and predictive functions associated with correlation research.

1.3.2.2 Study population

The study population will consist of students from different year groups enrolled in various courses at a South African university. An availability sample of students majoring in Organizational Behaviour will be selected. This group will be made aware of the burnout phenomenon and asked to participate in a study focussing on this phenomenon. Two main groups will be included in this study, namely a mainly Afrikaans-speaking group of students from the main campus and a mainly African language-speaking group from a satellite campus.

1.3.2.3 Measuring instruments

The *Maslach Burnout Inventory - Student Survey* (MBI-SS) (Schaufeli, Martínez, et al., 2002), the *Utrecht Work Engagement Scale - Student Survey* (UWES-S) (Schaufeli, Martínez, et al., 2002) and a biographical questionnaire will be administered.

The *Maslach Burnout Inventory - Student Survey* (MBI-SS) (Schaufeli, Martínez, et al., 2002) will be used to measure the levels of burnout experienced by participants. The MBI-SS is a modified version of the Maslach Burnout Inventory – General Survey (MBI-GS). For instance, the item “I feel emotionally drained from my *work* [italics added]” was rephrased to “I feel emotionally drained from my *study* [italics added]”. The MBI-SS consists of 16 items in the three subscales, namely Exhaustion (five items), Cynicism (five items) and Efficacy (six items). Together the subscales of the MBI-SS provide a three-dimensional perspective on burnout. All items are scored on a seven-point frequency rating scale ranging from 0 (never) to 6 (always). High scores on Exhaustion and Cynicism, and low scores on Efficacy are indicative of burnout. The internal consistencies (Cronbachs’ alphas) of the MBI-GS, as reported by Maslach, Jackson and Leiter (1996), varied from 0,87 to 0,89 for Exhaustion, 0,73 to 0,84 for Cynicism and 0,76 to 0,84 for Professional Efficacy. Test-retest reliabilities after one year were 0,65 (Exhaustion), 0,60 (Cynicism) and 0,67 (Professional Efficacy) (Maslach et al., 1996). External validation of the MBI-GS has been obtained from its convergence with peer ratings, job dimensions associated with burnout, and stress outcomes (Maslach & Jackson, 1984). According to Schaufeli, Martínez, et al. (2002) alpha values above 0,60 were reported.

The *Utrecht Work Engagement Scale – Student Survey* (UWES-S) (Schaufeli, Martínez, et al., 2002) will be used to measure the levels of engagement. Work engagement is a concept that includes three dimensions, namely Vigour (six items), Dedication (five items) and Absorption (six items). Like with the MBI, items of the UWES that refer to *work* or *job* have been replaced by *studies* or *class*. Items of the resulting UWES-S are similarly scored to those of the MBI-SS. To avoid answering bias, burnout and engagement items are merged randomly. On the UWES, high levels of Vigour, Dedication and Absorption characterise engaged workers that are immersed in their jobs. The question whether engagement and burnout are endpoints of the same continuum or two distinct but related concepts is therefore an empirical one. The UWES is scored on a seven-point frequency rating scale, varying from 0 (“never”) to 6 (“always”). The alpha coefficients for the three subscales varied between 0,68 and 0,91. Schaufeli, Martínez, et al. (2002) reported alpha values above 0,60 in a sample of university students.

A biographical questionnaire will be administered to gather information on background variables such as gender, home language, field of study, historical year of study, hours spend

on activities that are related to studies and illnesses experienced during the past six months. This information will also be used to investigate whether biographical differences play any role in the experience of burnout and engagement among tertiary education students.

1.3.2.4 Statistical analysis

The statistical analysis will be carried out with the help of the SPSS (SPSS, 2003) and AMOS programmes (Arbuckle, 2005). Cronbach's alpha coefficients, exploratory and confirmatory factor analysis will be utilised to assess the reliability and validity of the measuring instruments (Clark & Watson, 1995).

Descriptive statistics (e.g. means, standard deviations, range, skewness and kurtosis) and inferential statistics will be used to analyse the data. Pearson correlation coefficients will be computed to determine the relationship between factors. In the case where the distribution of scores is skew, Spearman correlation coefficients will be computed. A cut-off point of $p = 0,05$ is set for the statistical significance of the results. Effect sizes (Cohen, 1988) will be used to decide on the practical significance of the findings. A cut-off point of 0,30 (medium effect) and 0,50 (large effect) is set for the practical significance of correlation coefficients (Cohen, 1988).

Structural equation modelling (SEM) methods as implemented by AMOS (Arbuckle, 2005), will be used to test the factorial model of the MBI-SS and UWES-S, using the maximum likelihood method. Before performing SEM, the frequency distributions of the MBI-SS and UWES-S will be checked for normality and multivariate outliers will be removed. SEM is a statistical methodology that takes a confirmatory (i.e. hypothesis-testing) approach to the analysis of a structural theory bearing on some phenomenon (Byrne, 2001). Several aspects of SEM set it apart from the older generation of multivariate procedures (Byrne, 2001). Firstly, it takes a confirmatory rather than an exploratory approach to data analysis. By demanding that the pattern of inter-variable relations be specified, a priori, SEM lends itself well to the analysis of data for inferential purposes. Secondly, while traditional multivariate procedures are incapable of either assessing or correcting for measurement error, SEM provides precise estimates of these error variance parameters. Thirdly, SEM procedures can incorporate both unobserved (latent) and observed variables.

In cases where the central concern is whether components of the measurement model and/or the structural model are invariant (i.e. equivalent) across particular groups, structural equation modelling based on AMOS will be used. In testing for equivalencies across groups, sets of parameters are put to the test in a logically ordered and increasingly restrictive fashion. Depending on the model and hypotheses to be tested, the following sets of parameters are most commonly of interest in answering questions related to group invariance: (a) factor loading paths, (b) factor variances/covariances, and (c) structural regression paths. The equality of error variances and covariances is probably the least important hypothesis to test. Although the Jöreskog tradition of invariance testing holds that the equality of these parameters should be tested, it is now widely accepted that to do so represents an overly restrictive test of the data (Byrne, 2001).

The process of determining non-equivalence of measurement and structural parameters across groups thus involves the testing of a series of increasingly restrictive hypotheses. As a prerequisite to testing the factorial invariance, it is customary to consider a baseline model that is estimated for each group separately. This model represents the one that best fits the data from the perspectives of both parsimony and substantive meaningfulness. Given that the χ^2 statistic and its degrees of freedom are additive, the sum of the χ^2 values derived from the model-fitting process for each group separately reflects the extent to which the underlying structure fits the data across groups when no cross-group constraints are imposed. Because measuring instruments are often group-specific in the way they operate, baseline models are not expected to be completely identical across groups. *A priori* knowledge of such group differences is critical to the application of invariance-testing procedures. The bulk of the literature suggests that the number of factors must be equivalent across groups before further tests of invariance can be conducted. This strategy represents a logical starting point only, and is not a necessary condition. Indeed, only the similarly specified parameters within the same factor need be equated (Werts, Rock, Linn, & Jöreskog, 1976).

The estimation of baseline models involves no between-group constraints and therefore the data can be analysed separately for each group. When testing for invariance, equality constraints are imposed on particular parameters, and thus the data for all groups must be analysed simultaneously to obtain efficient estimates. The pattern of fixed and free parameters nonetheless remains consistent with the baseline model specification for each group.

As a preliminary step in testing for invariance across groups, a test for the validity of the measurement instruments structure as best represented by their factors is done. There are two reasons for this. First, although the former tests were conducted for each group separately, tests for the validity of factorial structure in this instance are conducted across the groups simultaneously. Second, in testing for invariance using the AMOS programme, as with the LISRELL programme, the fit of the simultaneously estimated model provides the baseline value against which all subsequently specified models are compared. In contrast to single-group analyses, however, this multigroup analysis yields only one set of fit statistics for overall model fit. Given that χ^2 statistics are summative, the overall χ^2 value for the multigroup model should equal the sum of the χ^2 values obtained when the baseline model is tested separately for each group.

In structural equation modelling, testing for the invariance of parameters across groups is accomplished by placing constraints on particular parameters. The parameters are specified as being invariant (i.e. equivalent) across groups. Although testing for the equality of error variances across groups is considered to be excessively stringent, Byrne believes that testing related to the error covariances specified in the present context is well justified both statistically and substantively. From here on, all subsequent tests for invariance are designed to pinpoint the location of non-invariance.

The significance of differences in students' experience of burnout and engagement regarding biographical variables will be established by means of MANOVA. Results were first analysed for statistical significance using Wilk's Lambda statistics. ANOVA was used to determine specific differences whenever statistically significant differences were found.

1.4 RESEARCH PROCEDURE

The focus of the study is to determine whether the factor structure that was confirmed in both international studies and one South African study among tertiary education students could also be confirmed in a sample of South African students. Students will be requested to participate in the study voluntarily. Students who took the time to complete a questionnaire will be given the opportunity to attend a lecture on the causes of burnout as well as ways to manage this phenomenon in order to prevent interference with their studies.

1.5 CHAPTER DIVISION

The chapters of this study are presented as follows:

Chapter 1: Introduction, problem statement, research objectives and research procedure

Chapter 2: Research article

Chapter 3: Conclusions, limitations and recommendations

1.6 CHAPTER SUMMARY

In this chapter, the problem statement and research objectives of this study were discussed. This was followed by a brief outline of the research design, the study population and the methods used in this study. Finally, the division of chapters was indicated.

In Chapter 2 the concepts of, and the relationship between, burnout and engagement among students as well as the psychometric analysis of the adapted measuring instruments are explored, both empirically and in existing subject literature.

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CHAPTER 2

RESEARCH ARTICLE

BURNOUT AND ENGAGEMENT IN A SOUTH AFRICAN UNIVERSITY STUDENT SAMPLE – A PSYCHOMETRIC ANALYSIS

C. Gauché

J. Pienaar

K. Mostert

*WorkWell: Research Unit for People, Policy and Performance, Faculty of Economic and
Management Sciences, North-West University, Potchefstroom*

ABSTRACT

The objective of this study was to investigate the psychometric properties of adapted versions of the Maslach Burnout Inventory and Utrecht Work Engagement Scale in a sample of students at a tertiary institution. A cross-sectional survey design was used with an availability sample of ($N=353$) students. The Maslach Burnout Inventory – Student Survey and the Utrecht Work Engagement Scale – Student Survey as well as a biographical questionnaire were administered. Structural equation modelling confirmed equivalent two-factor models of burnout and engagement. Biographical variables which appear to be predictive of differences in student burnout are home language, overall health status and consideration given to quitting their studies, while engagement is related to home language, academic year of study and consideration given to quitting studies.

OPSOMMING

Die doel van hierdie studie was om die psigometriese eienskappe van aangepaste weergawes van die Maslach Uitbrandingsvraelys en die Utrecht Werkbegeesteringskaal in 'n steekproef van studente aan 'n tersiêre instelling te ondersoek. 'n Dwarsnit opname-ontwerp is gebruik met 'n beskikbaarheidssteekproef van ($N=353$) studente. Die Maslach Uitbrandingsvraelys – Studente-opname en die Utrecht Werkbegeesteringskaal – Studente-opname asook 'n biografiese vraelys is afgeneem. Strukturele vergelykingsmodellering het ekwivalente tweefaktormodelle van uitbranding en begeestering bevestig. Biografiese veranderlikes wat verskille in uitbranding by studente voorspel is huistaal, algehele gesondheidstoestand en die oorweging wat 'n student daaraan gee om sy/haar studies te staak, terwyl begeestering verwant is aan huistaal, akademiese jaar van studie en die oorweging wat 'n student daaraan gee om sy/haar studies te staak.

South African students are faced with some unique challenges and changes in the tertiary education system. Tertiary educational institutions in South Africa are currently undergoing major changes aimed at restructuring the sector in order to solve problems of duplication, fragmentation, lack of access and to improve the quality of education on offer. Key goals of the restructuring process include increasing the number of students in the system over the next 10 to 15 years. Although students are not directly involved in these changes, it does create a distraction causing them to experience difficulties in their studies. Whereas in the past most higher education students in the country were white, at present nearly 60 per cent are black (SouthAfrica.info Reporter, 2003). Adapting to an unfamiliar culture and foreign customs and beliefs places extra strain on students.

Various factors impact on a student's experience of burnout and engagement. On 25 January 2006 (Maraba, 2006) and 31 January 2006 (Anon, 2006), two daily newspaper articles were published, informing the general public of a project called "Ikateleng". This project has been running for the past 18 years and is aimed at offering qualitative extra tuition to learners with a view to improve their matric pass rates. The university where this research was undertaken is probably one of the only universities in South Africa that has spearheaded such an initiative. Scholars from previously disadvantaged communities are identified by their teachers and these scholars are given the opportunity to attend extra classes on Saturdays.

Concerning the language policy of the specific university, a newspaper article appeared in *Beeld* on 27 October 2005 (Pienaar, 2005) highlighting the success rate since the implementation of a translation (interpreter) project in 2004. This service enables lecturers to present lectures in one language (Afrikaans), while the interpreter translates in real time to another group of students, in English. The process is more cost-effective, as the lecturer is able to spend more time on the lecture itself and be available for enquiries from the students. Students should feel that their needs are taken into consideration and that they are important to the university.

Unfortunately, the institution where this research is undertaken also receives some less positive publicity. A newspaper article published in *Beeld* on 25 November 2005 (De Beer, 2005) reported that a professor at the university has been reprimanded for neglecting to ensure that a student does not commit plagiarism in writing his thesis. This incidence could lead students to form negative perceptions regarding the quality of education they are receiving at the institution. Earlier the same month, on 3 November 2005, the institution

made the *Weekly Mail and Guardian* (Botha, 2005) when a lecturer made negative comments regarding gay people during a lecture. Also, the institution made the news because it was being sued by students who received degrees that were not acknowledged by the Health Professions Council of South Africa since their lecturer was not a registered member of the council (Tempelhoff, 2005). Incidents such as these outlined above, that reach the popular press, may cause students to have a negative attitude towards the university, which in turn may facilitate higher levels of burnout.

The concept of burnout, which was initially closely linked to human services such as health care, education and social work (where people work in constant involvement with other human beings) has been expanded to all other professions and occupational groups. Nowadays it is widely acknowledged that people in almost any occupation could develop burnout. Research regarding this phenomenon in students seems not only relevant, but also necessary, for these young people are the future employees of South Africa (Van der Merwe, 2003). Previously it was believed that students cannot experience burnout, but this belief has been proven invalid (Balogun, Helgemoe, Pellegrini, & Hoeberlein, 1996). The environment in which students function nowadays demands more of them than ever before. Burnout among students refers to feeling incompetent as a student, having a cynical and detached attitude towards one's studies and feeling exhausted because of study demands. Student burnout can be considered an erosion of academic engagement (Schaufeli, Martínez, Pinto, Salanova, & Bakker, 2002), and burnout among students could have a negative impact on their academic performance and far-reaching consequences for their personal and professional development (Sieberhagen & Pienaar, 2005).

University students may in fact experience the burnout phenomenon due to learning conditions that demand excessively high levels of effort and situations that do not provide supportive mechanisms that would facilitate effective coping (Neumann, Finaly-Neumann, & Reichel, 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).

The new trend in burnout research is the shift towards its opposite, namely engagement or job engagement. This forms part of a more general movement towards "positive psychology" which focuses on human strengths and optimal functioning, rather than on weaknesses and malfunctioning (Seligman & Csikszentmihalyi, 2000). Seen from this perspective, burnout is

rephrased as an erosion of engagement with the job (Schaufeli, Salanova, González-Romá, & Bakker, 2002).

Schaufeli, Martínez, et al. (2002) consider burnout and engagement to be opposite concepts that should be measured independently with different instruments. In this framework, burnout and engagement can be described by referring to the level of identification an individual has with his/her organisation, or in this case, the level of identification students have with their studies. The dimensions of burnout and engagement can further be described by considering the level of energy or activation an individual exhibits in the course of his/her work, or in this case, his/her studies. Burnout is characterised by a combination of exhaustion (low activation) and cynicism (low identification), whereas engagement is characterised by dedication (high identification) and vigour (high activation). Furthermore, burnout includes reduced professional efficacy, and engagement includes absorption. In contrast to both the other elements of burnout and engagement – concepts that are direct opposites (exhaustion vs. vigour, and cynicism vs. dedication) - reduced efficacy and absorption are *not* each other's direct opposites. Rather, they are conceptually distinct aspects that are not the end points of some underlying continuum. It is noteworthy in this respect that reduced efficacy was added as a constituting element of burnout, after it appeared as a third factor from a factor analysis of a preliminary version of the MBI (Maslach, 1993). In a similar vein, absorption was found to be a relevant aspect of engagement after some 30 in-depth interviews were conducted (Schaufeli, et al., 2001).

The trend in current research is to consider only the core dimensions, especially when comparing burnout and engagement (Bakker, 2006). Professional Efficacy is excluded from the “core” dimensions because it is reversely scored when it forms part of the MBI-SS while in fact it is a positive dimension. Schaufeli, Salanova, et al. (2002) confirmed that reversed professional efficacy loaded on the latent engagement factor instead of the burnout factor when a two-factor model was fitted to the data. This model includes the so-called “core of burnout” factor consisting of exhaustion and cynicism and an extended engagement factor that also includes professional efficacy in addition to the three engagement scales. This research also considers only the so-called “core dimensions” of burnout and engagement.

When counsellors or advisors are faced with a student who appears to be suffering from burnout, it is important to recognise that the student may be experiencing feelings of depersonalisation and a reduced sense of accomplishment, in addition to emotional exhaustion. A common prescription might be to suggest that the student “lighten the load” by

dropping a course, cutting back on extracurricular activities, spending less time socialising with friends, or reducing hours of employment. Decisions of this kind could however have serious implications for a student's future career, and should not be taken lightly. The availability of valid instruments for gauging burnout and engagement in students can aid these decisions.

When looking at the relationship between engagement and (academic) performance, it seems plausible that vigorous and dedicated students, who are energetic and immersed in their studies, are successful. As for burnout, it seems that generally speaking, the relationship with performance is rather weak and inconsistent, particularly when objective performance indicators are used, instead of self-reports or supervisor ratings (Schaufeli & Enzmann, 1998). This may also apply to the relationship between student burnout and academic performance. Nowack and Hanson (1983) found a weak negative relationship between burnout and performance, as rated by peers, in college students. Stewart, Lam, Betson, Wong, and Wong (1999), using a longitudinal design, found that academic performance during medical school was negatively related to reported stress levels (i.e. anxiety and depression). Schaufeli, Martínez, et al. (2002) found that academic performance (i.e. the ratio of exams passed during the previous term relative to the total number of exams) is negatively related to burnout and positively related to engagement. Students who feel efficacious and vigorous are more likely to perform well, compared to those who feel less efficacious and vigorous. These results agree with studies among students that found that self-efficacy (Newby-Fraser & Schlebusch, 1997) and task-oriented coping (Edwards & Trimble, 1992), which are both conceptually related to efficacy, are positively related to academic performance.

Research by Marais and Kirsten (1999) revealed that students suffer from feelings of depression, headaches and despair (due to being behind in academic work), a lack of necessary funds and poor academic achievement. Although definitions of burnout differ in scope and precision, they share at least some common elements such as fatigue, depression and mental or emotional exhaustion. Decreased effectiveness and work performance occur because of negative attitudes and behaviour (Schaufeli, Maslach, & Marek, 1993).

Engagement is theoretically viewed as the opposite end of the continuum from burnout, but cannot be measured effectively by the Maslach Burnout Inventory (MBI). The Utrecht Work Engagement Scale (UWES) (Schaufeli, Salanova, et al., 2002) was developed for the explicit measurement of engagement.

Gold and Bachelor (1989) adapted the Maslach Burnout Inventory in order to measure burnout among teachers as well as students studying to become teachers. The College Student Survey (CSS) was adapted by substituting several item statements with ones that would be more suitable in a teaching context. As in the instance of other factor analytic studies with the MBI, the three hypothesised constructs of burnout described as emotional exhaustion, depersonalisation, and personal accomplishment were clearly defined in all factor solutions, irrespective of whether the items were scored for frequency or intensity. They found that the CSS was a reliable and valid criterion measure for the measurement of psychological behaviours associated with burnout in research studies. The demonstrated factorial validity of the CSS suggested that researchers could correlate scores on the factor scales of the CSS with numerous measures of various personality constructs such as anxiety, depression and stress to ascertain whether these constructs overlap those that have been identified as central to burnout.

Schaufeli, Martínez, et al. (2002) examined the psychometric structure of the MBI-SS (Maslach Burnout Inventory – Student Survey) and the UWES-S (Utrecht Work Engagement Scale – Students) in a sample of university students from three different European countries, using confirmatory factor analysis. These versions are very close to the original, except that they have been adapted to reflect the experiences of students. Schaufeli, Martinez, et al. (2002) supported the three-factor structure, albeit after removing three unsound engagement items and allowing some error terms to correlate. The fact that they failed to demonstrate complete factorial invariance of the MBI-SS in student samples from different European countries stands in contrast to the positive results obtained with the other versions of the MBI (Schaufeli & Janczur, 1994). The results concerning the invariance of the UWES-S were more encouraging and the UWES-S is partly invariant across samples. It was suggested that a next step in research would be to investigate the relationship of the engagement scales with job- or study-related variables in a similar fashion as they had done with burnout.

South Africa is a uniquely multicultural country and therefore students in South Africa will probably experience different stressors than their overseas counterparts (Sieberhagen & Pienaar, 2005). In South Africa, where there are 11 official languages and English is the second language of most people, the use of metaphors and the use of uncommon words such as “resilience”, “immersed” and “engrossed” in items could contribute to misunderstandings. In the South African context different languages relates to different cultures. In a cross-national study Salanova and Schaufeli (2000) concluded that despite relatively small cultural

differences, the three burnout dimensions are not entirely beyond question. Schaufeli, Martínez, et al. (2002) proved this conclusion to be caused by either translation problems, which they labelled as highly unlikely, or by the specific sample under study. When items are rephrased, it cannot be ruled out that it might cause a slight change to the meaning of each item. Ambivalence will prompt members of different cultural groups to react differently to items.

Schaufeli, Martínez, et al. (2002) concluded that both instruments, but particularly the MBI-SS, do not pass a rigorous test of factorial invariance. The three-factor structure of the MBI-SS and the UWES-S fit well to the data of samples from various European countries, but their factor loadings differ from one country to another, despite the similar university context. Based on the failure to show invariance for the MBI-SS and UWES-S, Schaufeli, Martínez, et al. (2002) suggested that further research is needed in this regard. Sieberhagen and Pienaar (2005) found that the subscales of burnout were sufficiently reliable and internally consistent, in a study of student leaders at a tertiary institution in South Africa. Their results, obtained by using the structural equation modelling approach, supported a three-dimensional factor structure for burnout among student leaders. This three-factor solution of burnout has also consistently been found for various other samples, occupational groups and countries (Taris, Schreurs, & Schaufeli, 1999). The validity analysis revealed that all the alpha scores were acceptable. It was therefore concluded that the MBI-SS, as used by Sieberhagen and Pienaar (2005), is a reliable and valid measuring instrument for measuring burnout in the South African context, but specifically with student *leaders* (that serve on academic, social and other committees). The same results were found for the UWES-S, indicating its reliability and validity when measuring the engagement construct for student leaders. The above-mentioned study has however been the only one done in South Africa to date, and the sample was limited in the sense that only student leaders were used. It would be of interest to establish whether the results can be replicated in a larger sample of general students from the ethnically diverse South African student population.

Two recent studies have found correlations between students' levels of stress, health and engagement with their campuses (Anon, 2005). Student engagement in this case is defined as the extent to which students feel connected to their campus and participate actively in meaningful educational experiences. Students who were more engaged in academic activities were significantly less likely to identify themselves as binge drinkers or to say that they have abused prescription drugs. Engagement with peers seems to have an effect on student health

as it was found that students who feel socially isolated might be more likely than other students to get sick and miss class. Lonely first-year students or students with small social networks produced fewer antibodies after receiving a flu shot than other first-year students (Anon, 2005). The Academic Development Program (ATDP) of an American university embarked on an outreach-recruiting programme in order to recruit students from underrepresented cultural groups (Gabelko & Sosniak, 2002). The programme was based on a system of “Ambassadors” – students who took part in the programme during previous years who went back to their schools to recruit students “just like me” for the programme. The programme coordinators’ expectation was that the students would define “like me” in ethnic terms – African American and Hispanic, but instead they found that Ambassadors recommended students who shared their interests irrespective of their cultural background. These students’ engagement in their studies trumped race, class and gender barriers (Gabelko & Sosniak, 2002).

From the above problem statement it becomes clear that burnout and engagement are important variables of interest to psychological health in tertiary students. However, a review of the literature revealed that only one study has been undertaken to date in South Africa utilising these constructs in a sample of tertiary students (Sieberhagen & Pienaar, 2005). Further validation studies of the constructs thus seem warranted. The objective of this study is therefore to investigate the psychometric properties of adapted versions of the burnout and engagement questionnaires in a sample of students from a tertiary institution. Furthermore, the influence of biographical variables in differing experiences of burnout and engagement by students is also investigated.

METHOD

Research design

A survey design was utilised to obtain the desired research objectives. The specific design was a cross-sectional design, whereby a sample was drawn from a population at one point in time (Shaughnessy & Zechmeister, 1997). Information collected was used to describe the population at that specific point in time. The design can also be used to assess interrelationships among variables within the population. According to Shaughnessy and Zechmeister (1997), this design is ideally suited to address the descriptive and predictive functions associated with correlation research.

Study population

The study population consisted of ($N=353$) students from different year groups enrolled in various courses at a South African university. The biographical information of the study population is presented in Table 1. The majority of the participants were female (57,20%), Afrikaans speaking (53%) and in their first year of study (36,30%). Setswana-speaking students constituted the second largest language group (33,10%).

Table 1

Demographic Characteristics of Participants (N = 353)

Item	Category	Frequency	Percentage (%)
Gender	Male	146	41,40
	Female	202	57,20
	Missing values	5	1,40
Year of Study	First	128	36,30
	Second	101	28,60
	Third	87	24,60
	Fourth	21	5,90
	Fifth	9	2,50
	Missing values	7	2,00
Home Language	Afrikaans	187	53,00
	English	10	2,80
	Sepedi	1	0,30
	Sesotho	22	6,20
	Setswana	117	33,10
	isiSwali	1	0,30
	Tshivenda	1	0,30
	isiNdebele	0	0
	isiXhosa	9	2,50
	isiZulu	1	0,30
	isiTsonga	1	0,30
	Missing values	3	0,8
Have had significant illnesses	Yes	57	16,10
	No	287	81,30
	Missing values	9	2,50
Rate overall health	Good	199	56,40
	Alright	136	38,50
	Poor	17	4,80
	Missing values	1	0,30

Table 1 (continued)

Demographic Characteristics of Participants (N = 353)

Item	Category	Frequency	Percentage (%)
Consider quitting	1 Agree / Frequently	13	3,70
	2	25	7,10
	3	21	5,90
	4	56	15,90
	5 Disagree / Never	230	65,20
	Missing values	8	2,30
Hours spend on studies	1 to 10 hours per week	153	43,30
	11 to 20 hours per week	75	21,25
	21 to 30 hours per week	41	11,60
	31 to 40 hours per week	25	7,10
	41 to 50 hours per week	9	2,55
	51 to 60 hours per week	8	2,30
	61 to 70 hours per week	1	0,3
	71 to 80 hours per week	2	0,60
	81 to 90 hours per week	0	0
	91 to 100 hours per week	0	0
	100 hours and more per week	2	0,60
	Missing values	37	10,50

Only a small percentage of students (16,10%) experienced significant illnesses during the past six months, and most students (56,40%) described their overall health status as good. The bulk of the students (65,20%) indicated that they do not consider quitting their studies and that they spend between one to ten hours per week on study-related activities (43,30%).

Measuring instruments

The *Maslach Burnout Inventory - Student Survey* (MBI-SS) (Schaufeli, Martínez, et al., 2002), the *Utrecht Work Engagement Scale - Student Survey* (UWES-S) (Schaufeli, Martínez, et al., 2002) and a biographical questionnaire were used in this study.

The *Maslach Burnout Inventory - Student Survey* (MBI-SS) (Schaufeli, Martínez, et al., 2002) was used to measure the burnout levels of participants. The MBI-SS is a modified version of the Maslach Burnout Inventory – General Survey (MBI-GS) (Maslach, Jackson and Leiter, 1996). For instance, the item “I feel emotionally drained from my *work* [italics added]” was rephrased to “I feel emotionally drained from my *study* [italics added]”. The MBI-SS consists of 16 items in three subscales, namely Exhaustion (EX; five items),

Cynicism (CY; five items) and Efficacy (EF; six items). Together the subscales of the MBI-SS provide a three-dimensional perspective on burnout. All items were scored on a seven-point frequency rating scale ranging from 0 (never) to 6 (always). High scores on Exhaustion (EX) and Cynicism (CY), and low scores on Efficacy (EF) are indicative of burnout.

The *Utrecht Work Engagement Scale – Student Survey* (UWES-S) (Schaufeli, Martínez, et al., 2002) was used to measure the levels of student engagement. Work engagement is a concept that includes three dimensions, namely Vigour (VI; six items), Dedication (DE; five items) and Absorption (AB; six items). As with the MBI items, wording in items of the UWES that refer to *work* or *job* have been replaced by *studies* or *class*. Items of the resulting UWES-S were similarly scored to those of the MBI-SS. On the UWES-S, high levels of Vigour, Dedication and Absorption characterise engaged students, and they are immersed in their studies. To avoid answering bias, burnout and engagement items were merged randomly.

As described in the problem statement, this research focused only on the “core dimensions” of burnout (exhaustion and cynicism) and engagement (vigour and dedication). The items from these subscales were randomised in order to prevent response sets.

A biographical questionnaire was administered to gather information on participants. This information include gender, home language, field of study, historical (number of years the student has spent at university) and academic (number of years relevant to the particular degree course that the student has completed) year of study, hours spent on activities that are related to studies, and illnesses experienced during the past six months.

Statistical analysis

The statistical analysis was carried out with the help of the SPSS (SPSS, 2003) and AMOS programme (Arbuckle, 2005). Cronbach’s alpha coefficients, inter-item correlation coefficients and exploratory and confirmatory factor analysis were utilised to assess the reliability and validity of the measuring instruments (Clark & Watson, 1995).

Descriptive statistics (e.g. means, standard deviations, range, skewness and kurtosis) and inferential statistics were used to analyse the data. Pearson correlation coefficients were computed to determine the relationship between factors. In the case where the distribution of

scores was skew, Spearman correlation coefficients were computed. A cut-off point of $p = 0,05$ was set for the statistical significance of the results. Effect sizes (Cohen, 1988) were used to decide on the practical significance of the findings. A cut-off point of 0,30 (medium effect) and 0,50 (large effect) was set for the practical significance of correlation coefficients (Cohen, 1988).

Structural equation modelling (SEM) methods as implemented by AMOS (Arbuckle, 2005), were used to test the factorial model of the MBI-SS and UWES-S, using the maximum likelihood method. Before performing SEM, the frequency distributions of the MBI-SS and UWES-S were checked for normality and multivariate outliers were removed. SEM is a statistical methodology that takes a confirmatory (i.e. hypothesis-testing) approach to the analysis of a structural theory bearing on some phenomenon (Byrne, 2001). Several aspects of SEM set it apart from the older generation of multivariate procedures (Byrne, 2001). Firstly, it takes a confirmatory rather than an exploratory approach to data analysis. By demanding that the pattern of inter-variable relations be specified, a priori, SEM lends itself well to the analysis of data for inferential purposes. Secondly, while traditional multivariate procedures are incapable of either assessing or correcting for measurement error, SEM provides precise estimates of these error variance parameters. Thirdly, SEM procedures can incorporate both unobserved (latent) and observed variables.

In cases where the central concern is whether components of the measurement model and/or the structural model are invariant (i.e. equivalent) across particular groups, structural equation modelling based on AMOS was used. In testing for equivalencies across groups, sets of parameters are put to the test in a logically ordered and increasingly restrictive fashion. Depending on the model and hypotheses to be tested, the following sets of parameters are mostly commonly of interest in answering questions related to group invariance: (a) factor loading paths, (b) factor variances/covariances, and (c) structural regression paths. The equality of error variances and covariances is probably the least important hypothesis to test. Although the Jöreskog tradition of invariance testing holds that the equality of these parameters should be tested, it is now widely accepted that to do so represents an overly restrictive test of the data (Byrne, 2001).

The process of determining non-equivalence of measurement and structural parameters across groups thus involves the testing of a series of increasingly restrictive hypotheses. As a prerequisite to testing the factorial invariance, it is customary to consider a baseline model

that is estimated for each group separately. This model represents the one that best fits the data from the perspectives of both parsimony and substantive meaningfulness. Given that the χ^2 statistic and its degrees of freedom are additive, the sum of the χ^2 values derived from the model-fitting process for each group separately reflects the extent to which the underlying structure fits the data across groups when no cross-group constraints are imposed. Because measuring instruments are often group-specific in the way they operate, baseline models are not expected to be completely identical across groups. *A priori* knowledge of such group differences is critical to the application of invariance-testing procedures. The bulk of the literature suggests that the number of factors must be equivalent across groups before further tests of invariance can be conducted. This strategy represents a logical starting point only, and is not a necessary condition. Indeed, only the similarly specified parameters within the same factor need be equated (Werts, Rock, Linn, & Joreskog, 1976).

The estimation of baseline models involved no between-group constraints and therefore the data could be analysed separately for each group. When testing for invariance, equality constraints are imposed on particular parameters, and thus the data for all groups must be analysed simultaneously to obtain efficient estimates. The pattern of fixed and free parameters nonetheless remained consistent with the baseline model specification for each group.

As a preliminary step in testing for invariance across groups, a test for the validity of the measurement instruments structure as best represented by their factors was done. There are two reasons for this. Firstly, although the former tests were conducted for each group separately, tests for the validity of factorial structure in this instance are conducted across the groups simultaneously. Second, in testing for invariance using the AMOS programme, as with the LISRELL programme, the fit of the simultaneously estimated model provides the baseline value against which all subsequently specified models are compared. In contrast to single-group analyses, however, this multigroup analysis yielded only one set of fit statistics for overall model fit. Given that χ^2 statistics are summative, the overall χ^2 value of the multigroup model should equal the sum of the χ^2 values obtained when the baseline model is tested separately for each group.

In structural equation modelling, testing for the invariance of parameters across groups is accomplished by placing constraints on particular parameters. The parameters are specified as being invariant (i.e. equivalent) across groups. Although testing for the equality of error variances across groups is considered to be excessively stringent, Byrne (2001) believes that

testing related to the error covariances specified in the present context is well justified both statistically and substantively. From here on, all subsequent tests for invariance were designed to pinpoint the location of non-invariance.

The significance of differences in students' experience of burnout and engagement regarding biographical variables was established by means of MANOVA. Results were first analysed for statistical significance using Wilk's Lambda statistics. ANOVA was used to determine specific differences whenever statistically significant differences were found.

RESULTS

Initially, a one-factor and two-factor model (consisting of exhaustion and cynicism) were fitted to the data to determine which better explained the variance in the data. Results of this analysis are presented in Table 2.

Table 2

Goodness-of-fit Statistics for the Hypothesised MBI-SS Model

	MODEL	χ^2	χ^2/df	GFI	IFI	TLI	CFI	RMSEA
M1	One-factor model	108,70	4,03	0,93	0,87	0,82	0,87	0,09
M2	Two-factor model	46,58	1,79	0,97	0,97	0,95	0,97	0,05

The statistically significant δ^2 value (108,70) in Model 1 of Table 2 (df=27; p=0,00) revealed a poor overall fit for the one-factor model of burnout. The δ^2/df value above 2, the GFI, IFI, TLI and CFI values lower than 0,95 and a RMSEA higher than 0,05 fail to confirm the hypothesised model. It is therefore apparent that some modification in specification is needed in order to determine a model that better represents the sample data. A two-factor model was fitted to the data and showed a marked improvement in terms of fit. This fit-statistics for the two-factor model are represented in Model 2 of Table 2. Analysis of the alpha value, however, indicated that for Cynicism, the alpha value could be improved by removing Item 14 ("I have become more cynical about whether my studies contribute anything"). Subsequently, this item was removed from the Cynicism scale for further analysis.

Based on sample size, only the Afrikaans and African language groups could be compared for construct equivalence. The results of this analysis are presented in Table 3.

Table 3

Construct Equivalence of the MBI-SS

MODEL	χ^2	χ^2/df	GFI	IFI	TLI	CFI	RMSEA
Baseline model (Afrikaans)	56,20	2,16	0,93	0,94	0,91	0,94	0,08
Baseline model (African languages)	19,58	0,75	0,97	1,03	1,05	1,00	0,00
Baseline model (African languages – Item 14)	16,25	0,86	0,97	1,01	1,02	1,00	0,00
Simultaneous test	64,80	1,71	0,95	0,96	0,94	0,96	0,05
Equivalence model	89,73	1,91	0,93	0,93	0,92	0,93	0,05

The baseline two-factor burnout model for the Afrikaans language group showed good fit. For the African languages group, it was felt that fit for the baseline model could be improved. Item 14 was removed and model fit to the data improved satisfactorily. Finally, equality constraints were imposed on all factor loadings, variances and co-variances for the language groups. This model, described as the equivalence model in Table 3, still showed acceptable fit to the data. Moving from separate models to the equality model saw a change in the $\chi^2 = 24,93$, and in the $\text{df} = 9$. This was not significant at the 0,001 level. It was therefore concluded that a burnout scale consisting of two dimensions, with Item 14 deleted from the cynicism scale, adequately described the phenomenon in both language groups.

The next step in the analysis was to examine the factor structure of the engagement construct. Results are reported in Table 4.

Table 4

Goodness-of-fit Statistics for the Hypothesised UWES-S Model

	MODEL	χ^2	χ^2/df	GFI	IFI	TLI	CFI	RMSEA
M1	One-factor model	92,48	2,64	0,94	0,94	0,92	0,93	0,07
M2	Two-factor model	57,23	1,68	0,97	0,97	0,97	0,97	0,04

The fit statistics for Model 1 in Table 4 ($\text{df}=35$; $p=0,00$) revealed a relatively good overall fit for the one-factor model of engagement. The χ^2/df value above 2, however, fails to confirm the hypothesised model. It was therefore apparent that some modification in specification was needed in order to determine a model that better represents the sample data. A two-factor model of engagement, comprising the vigour and dedication dimensions, was fitted to the data. The improved fit statistics for the two-factor model are reported in Table 4. Analysis of reliability estimates (coefficient alpha's) however indicated that the reliability of the vigour

scale could be improved by deleting Item 1 (“When I study, I feel like I am bursting with energy”). This item was deleted from subsequent analysis.

The next step was to determine whether the engagement construct proved equivalent across the different language groups in the sample. Again, only the Afrikaans and African language groups could be compared based on sample size. The results of the analysis are represented in Table 5.

Table 5
Construct Equivalence of the UWES

MODEL	χ^2	χ^2/df	GFI	IFI	TLI	CFI	RMSEA
Baseline model (Afrikaans)	104,18	3,06	0,89	0,89	0,86	0,89	0,11
Baseline model (Afrikaans – Item 1)	62,28	2,40	0,93	0,94	0,91	0,94	0,09
Baseline model (African languages)	49,57	1,46	0,94	0,94	0,91	0,94	0,06
Baseline model (African languages – Item 1)	38,16	1,47	0,95	0,95	0,93	0,95	0,06
Simultaneous test	100,43	1,93	0,94	0,94	0,92	0,94	0,05
Equivalence model	114,50	1,85	0,93	0,94	0,92	0,93	0,05

Table 5 illustrates that for the Afrikaans language group, model fit was improved by deleting Item 1. The same can be seen for the African languages group. In comparing separate models to a model with equality constraints imposed on all factor loadings, variances and co-variances for the language groups, the model was found to be equivalent across both samples. The change in $\chi^2 = 14,06$ and in $df = 10$ proved to be non-significant at the 0,001 level, indicating equivalence of the engagement measure, as consisting of two subscales, namely Vigour and Dedication, and with Item 1 deleted from the vigour scale, for both language groups.

The descriptive and reliability statistics and correlations between constructs are reported in Table 6.

Table 6

Means, Standard Deviations, Internal Consistencies (Cronbach's Alpha Coefficients) and Correlation Coefficients between the Model Variables

Item	Mean	SD	α	EX	CY	VI
1. Exhaustion (EX)	13,90	6,34	0,74	1.00	-	-
2. Cynicism (CY)	5,19	4,10	0,68	0,46*	1.00	-
3. Vigour (VI)	15,08	4,97	0,70	-0,33*	-0,32*	1.00
4. Dedication (DE)	22,49	5,62	0,78	-0,21	-0,44*	0,60**

All correlations are significant at the 0,01 level (2 tailed)

+Correlation is practically significant: $0,30 \leq r \leq 0,49$ (medium effect)

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

As can be seen from this table, all scales show good reliabilities (all Cronbach's alpha coefficients are higher than 0,70), except for the Cynicism scale ($\alpha = 0,68$). Vigour shows a negative statistically significant correlation with Exhaustion (practically significant, medium effect). A positive statistically significant correlation (practically significant, medium effect) exists between Exhaustion and Cynicism. Vigour and Dedication show negative, statistically significant correlations (practically significant, medium effect) with Cynicism. Dedication shows a positive statistically significant correlation (practically significant, large effect) with Vigour.

Next, MANOVA (multivariate analysis of variance) was used to determine differences between demographic groups with regard to burnout. Demographic groups included in the study are gender, language, year of study, illness (experiencing a significant illness during the past six months), general health rating and how often students consider quitting their studies. Results were first analysed for statistical significance using Wilk's Lambda statistics. ANOVA was used to determine specific differences whenever statistically significant differences were found. The results of the MANOVA analysis are given in Table 7.

Table 7

MANOVA – Burnout

Variable	Value	F	Df	p	Partial Eta Squared
Gender	1,00	0,85	2,00	0,43	0,01
Language	0,93	5,81	4,00	0,00*	0,04
Year of study	0,97	1,26	8,00	0,26	0,02
Illness	0,99	2,68	2,00	0,07	0,02
Health	0,95	4,27	4,00	0,00*	0,02
Quitting	0,90	5,74	6,00	0,00*	0,05

* $p < 0,05$ = statistically significant effect

In an analysis of Wilk's Lambda values, no statistically significant differences ($p < 0,05$) regarding burnout levels could be found between the burnout dimensions based on the gender of individuals, their year of study, or whether they had experienced significant illness during the past six months. However, statistically significant differences ($p < 0,05$) were found between burnout dimensions for different language groups, students' perceptions of their overall health, and whether they considered quitting their studies. The relationship between burnout and these demographic variable levels were further analysed using ANOVA. Because of the difference in sample sizes, the Tukey HSD procedure was implemented when determining differences between the groups.

The results of the ANOVA based on language groups that were large enough for comparison are given in Table 8.

Table 8

Differences in Burnout levels based on Language

Item	Afrikaans	Sesotho	Setswana	p	Partial Eta Squared
Exhaustion (EX)	15,20 ^a	11,16 ^b	12,19 ^b	0,00*	0,06
Cynicism (CY)	5,60 ^a	5,20	4,35 ^b	0,04*	0,02

* Statistically significant difference: $p < 0,05$

^a Group differs statistically significantly from language group (in row) where ^b is indicated

Table 8 shows that there are statistically significant differences between levels of Exhaustion and Cynicism based on language. It seems that the Afrikaans-speaking students experience

statistically significant higher levels of Exhaustion than Sesotho- and Setswana-speaking students, and also statistically significantly higher levels of Cynicism than Setswana-speaking students.

The results of the ANOVA based on students' self-ratings of health are given in Table 9.

Table 9

Differences in Burnout levels based on Health

Item	Good	Alright	Poor	<i>p</i>	Partial Eta Squared
Exhaustion (EX)	12,87 ^a	15,43 ^b	13,35	0,00*	0,04
Cynicism (CY)	4,71	5,71	6,56	0,03*	0,02

* Statistically significant difference: $p < 0,05$

^a Group differs statistically significantly regarding perceptions of health (in row) where ^b is indicated

Table 9 shows that there are statistically significant differences between levels of Exhaustion and Cynicism, based on health. It seems that students who rate their overall health as "alright" experience statistically significant higher levels of Exhaustion than students who rate their health as "good".

The results of the ANOVA based on the extent to which students consider quitting their studies are given in Table 10. Since a small percentage of students indicated that they consider quitting their studies all the time ($n = 13$), this group was not included in the analysis.

Table 10

Differences in Burnout levels based on Considerations of Quitting Studies

Item	Consider quitting more frequently	3	4	Never consider quitting	<i>p</i>	Partial Eta Squared
Exhaustion (EX)	17,10 ^b	16,76 ^b	15,71 ^b	12,90 ^a	0,00*	0,06
Cynicism (CY)	7,36 ^b	7,38 ^b	6,38 ^b	4,42 ^a	0,00*	0,08

* Statistically significant difference: $p < 0,05$

^a Group differs statistically significantly on intention to quit studies (in row) where ^b is indicated

Table 10 shows that there are statistically significant differences between levels of Exhaustion and Cynicism based on students' consideration of quitting their studies. It seems that students who never consider quitting their studies experience statistically significant lower levels of Exhaustion and Cynicism than students who consider quitting their studies more frequently. In other words, students who experience higher levels of Exhaustion and Cynicism indicate that they have to a greater extent considered quitting their studies than students who experience lower levels of Exhaustion and Cynicism.

Next, MANOVA was used to determine differences between demographic groups with regard to engagement. Results were first analysed for statistical significance using Wilk's Lambda statistics. ANOVA was used to determine specific differences whenever statistically significant differences were found. The results of the MANOVA analysis are given in Table 11.

Table 11

MANOVA – Engagement

Variable	Value	F	Df	p	Partial Eta Squared
Gender	0,99	0,98	2,00	0,38	0,01
Language	0,84	15,12	4,00	0,00*	0,09
Year of study	0,92	3,41	8,00	0,00*	0,04
Illness	1,00	0,50	2,00	0,61	0,00
Health	0,98	1,38	4,00	0,24	0,01
Quitting	0,81	12,32	6,00	0,00*	0,10

* $p < 0,05$ = significant effect

In an analysis of Wilk's Lambda values, no statistically significant differences ($p < 0,05$) could be found regarding engagement levels based on the different genders, whether students had experienced significant illness during the past six months, or students' overall health rating. However, statistically significant differences ($p < 0,05$) were found between different language groups, between students in different years of study, and the extent to which students considered quitting their studies. The differences regarding engagement for these demographic variables were further analysed using ANOVA. Because of the difference in sample size, the Tukey HSD procedure was implemented when determining differences between the groups.

The results of the ANOVA based on different language groups that were large enough to compare are given in Table 12.

Table 12

Differences in Engagement levels based on Language Groups

Item	Afrikaans	Sesotho	Setswana	<i>p</i>	Partial Eta Squared
Vigour (VI)	13,59 ^a	17,45 ^b	16,97 ^b	0,00*	0,12
Dedication (DE)	20,65 ^a	25,14 ^b	25,00 ^b	0,00*	0,15

* Statistically significant difference: $p < 0,05$

^a Group differs statistically significantly from language group (in row) where ^b is indicated

Table 12 shows that there are statistically significant differences between levels of Vigour and Dedication, based on language. It seems that Afrikaans-speaking students experience statistically significant lower levels of Vigour and Dedication than Sesotho- and Setswana-speaking students.

The results of the ANOVA based on the current year of study are given in Table 13.

Table 13

Differences in Engagement levels based on Year of Study

Item	1 st year	2 nd year	3 rd year	4 th year	5 th year	<i>p</i>	Partial Eta Squared
Vigour (VI)	15,11	16,80 ^a	13,99 ^b	13,33 ^b	12,56	0,00*	0,06
Dedication (DE)	22,85	24,03 ^a	20,89 ^b	20,79	21,00	0,00*	0,05

* Statistically significant difference: $p < 0,05$

^a Group differs statistically significantly based on year of study (in row) where ^b is indicated

Table 13 shows that there are statistically significant differences between levels of Vigour and Dedication, based on year of study. It seems that students in their second year of study experience statistically significant higher levels of Vigour than students in their third and fourth year of study. Also, students in their second year of study experience statistically significant higher levels of Dedication than those in their third year of study.

The results of the ANOVA based on students' intentions to quit their studies are given in Table 14. Since few students indicated that they consider quitting their studies all the time ($n=13$), this group was not included in the analysis.

Table 14

Differences in Burnout levels based on Considerations of Quitting Studies

Item	Consider quitting more frequently	3	4	Never consider quitting	<i>p</i>	Partial Eta Squared
Vigour (VE)	10,92 ^b	13,86	12,87 ^b	16,23 ^a	0,00*	0,13
Dedication (DE)	18,16 ^b	20,17	19,14 ^b	24,08 ^a	0,00*	0,17

* Statistically significant difference: $p < 0,05$

^a Group differs statistically significantly in terms of intentions to quit studying (in row) where ^b is indicated

Table 14 shows that there are statistically significant differences between levels of Vigour and Dedication based on the degree to which students consider quitting their studies. Students who never consider quitting their studies experience statistically significantly higher levels of Vigour and Dedication than students who give some consideration to quitting their studies.

DISCUSSION

Reliability analysis revealed that the two subscales of burnout (exhaustion and cynicism) were sufficiently internally consistent. The results obtained using the structural equation modelling approach supported the two-dimensional factor structure of burnout among students at a tertiary institution. These results support the definition of burnout as conceptualised by Schaufeli, Martínez, et al. (2002). The reliability analysis revealed that all the alpha scores, except for Cynicism (0,68) and Vigour (0,70), were acceptable. In order to improve the reliability of the cynicism subscale, Item 14 ("I have become more cynical about whether my studies contributes anything") was removed and model fit to the data also improved satisfactorily. It can therefore be concluded that the MBI-SS, (consisting of exhaustion and cynicism dimensions) is a reliable and valid measuring instrument for burnout among students from different cultural backgrounds. This finding also echoes results reported by Sieberhagen and Pienaar (2005) in a sample of university student leaders.

The UWES-S's psychometric properties were also investigated in this study. The results obtained using the structural equation modelling approach supported the two-dimensional factor structure of engagement among students at a tertiary institution. It was found through reliability analysis that the alpha scores for both the subscales of engagement (vigour and dedication) were internally consistent and valid. In order to improve the reliability of the vigour subscale, Item 1 ("When I study, I feel like I am bursting with energy") was removed and the model fit to the data also improved satisfactorily. The vigour and dedication scales, as operationalised by the UWES-S, are subsequently confirmed valid and reliable in measuring engagement among students from different cultural backgrounds. This finding again replicates that of Sieberhagen and Pienaar (2005) done among student leaders at a university.

Regarding the interaction between burnout and engagement it was evident that exhaustion showed a negative relationship with vigour and dedication. A possible interpretation of this finding is that, as a student becomes more and more exhausted by his/her academic work/schedule, the dedication to his/her work, and also the vigour displayed in his/her studies will decrease. The mere thought of another upcoming project and the dedication and vigour that is needed to complete such a project successfully, might leave the student even more exhausted. Cynicism also showed a negative relationship with Vigour and Dedication. A possible interpretation for this finding is that a student who experiences high levels of vigour and dedication to his/her studies will most likely experience low levels of cynicism. The student is likely to spend extra time and effort on his/her studies, which will most likely lead to success which will cause the student not to feel cynical. The relationship between the burnout constructs (Exhaustion and Cynicism) on the one hand, and between the engagement constructs (Vigour and Dedication) on the other, was positive. These findings indicate that a dedicated student is also likely to experience high levels of vigour, while a student who suffers from exhaustion will possibly also experience cynicism.

Afrikaans-speaking students experienced significantly higher levels of exhaustion than Sesotho- and Setswana-speaking students, and also significantly higher levels of cynicism than Setswana-speaking students. It is important to note that 7,6% of the respondents speak languages other than Afrikaans, Setswana and Sesotho. The percentage of participants who speak languages other than the above-mentioned three was too small to be compared to these three bigger groups. Previous research done by Salanova and Schaufeli (2000) concluded that translation of items containing uncommon words could affect the responses of participants, especially if the questionnaire is not formulated in their first language. Unfortunately, English

first-language participants were underrepresented in this research, which made an item-level comparison with other language groups impossible. Another possible explanation for the high levels of exhaustion among Afrikaans speaking students could be that the university where the study was conducted was previously classified as an Afrikaans University. With the new mergers and structural changes in the tertiary environment, and the fact that classes presented in English are in greater demand, Afrikaans students might find it more difficult to adapt to these changes. These students' cynical attitudes could contribute to them feeling detached from their (previously exclusively Afrikaans) university. The positive relationship between Cynicism and Exhaustion indicates that those students who measure higher on Cynicism are also likely to feel more emotionally drained. Afrikaans-speaking students also experience significantly lower levels of vigour and dedication than Sesotho- and Setswana-speaking students – a finding which again underscores the relationship between language group and burnout and engagement.

It seems that students who never consider quitting their studies experience significantly lower levels of exhaustion and cynicism than students who consider quitting their studies more frequently. In other words, students who experience higher levels of exhaustion and cynicism indicate that they have given greater consideration to quitting their studies than students who experience lower levels of exhaustion and cynicism. Conversely, students who are experiencing higher levels of exhaustion and cynicism may be more inclined to consider quitting their studies. Students who never consider quitting their studies experience significantly higher levels of vigour and dedication than students who give some consideration to quitting their studies. Conversely, students who display higher levels of vigour and dedication to their studies may be less likely to consider quitting it. Although causality cannot be determined in cross-sectional data, the consideration of quitting studies might be regarded as a function of burnout and engagement. Students who experience greater burnout symptomatology and lower positive effects of engagement could be more inclined to drop out of the tertiary education system.

Students in their second year of study experience higher levels of vigour than students in their third and fourth year of study. Also, students in their second year of study experience higher levels of dedication than those in their third year of study. Previous research findings regarding these relationships could not be obtained. A possible explanation for this could be that after completion of their first year, during which students have to figure out where they fit in and how to handle the workload, students in their second year may feel much more

comfortable with their situation. The workload in the second year may be less than in the third and fourth years, and therefore students have more time available to be involved in activities that contribute to their dedication and vigour. Also, students in their third or fourth year of study are nearing the end of their studies and it might be argued that they are mentally preparing themselves for the world of work. At the prospect of leaving university, and faced with the uncertainty of finding a job, students' vigour and dedication to the institution may decrease.

Students who rate their overall health as poor were shown to experience significantly higher levels of exhaustion than students who rate their overall health as good. In one sense, one would expect students who experience psychologically poorer health, as indicated by high exhaustion ratings, to also experience poorer physical health, since the mind-body unison and interaction is a widely-accepted fact. This finding could however also be explained by students who become ill more often or students who are chronically ill. Such students may become exhausted by trying to keep up with their academic work in order not to fall behind. Other students or their lecturers may not be that willing to assist them to catch up on their work, as the perception might exist that these students are purposefully not attending the classes. Healthier students can also more actively participate in student activities, thereby expanding their social network. Peers seems to have a significant effect on student health, as findings revealed that students who feel socially isolated might be more likely than other students to become ill and miss class (Anon, 2005).

LIMITATIONS

The questionnaires were completed by students of the Economics and Business Science faculties at two different campuses of a newly-merged tertiary education institution. The group is very Human Resources-orientated and results obtained can therefore not be generalised to students studying different courses at different faculties, or even to other universities. The sample (N=353) is also too small to generalise the findings to the general student population. The data collection process itself (convenience sampling), and the fact that it focused on self-report questionnaires, could have been enhanced by short interviews with each of the participants in order to clarify their responses and to gain more qualitative insight into their quantitative information. If this study would take the form of a longitudinal study, attention could be given to the causes and effects of the burnout experienced by the students. Furthermore, attention could also be given to the situational factors in the study, for

example, the training environment in which the students find themselves, availability of resources, experience of overload and commitment.

RECOMMENDATIONS

Tertiary institutions should take note of the phenomenon of burnout among students. Oftentimes students are referred to as carefree creatures, but the increased cost and tougher competition to gain access to tertiary education prove this an incorrect perception. With the ever increasing cost of tertiary education, students often have to find a part-time job in order to pay for all the extra student-related activities like sport and social events, hostel functions and course-related activities/outings. With so many activities happening in and around the campus, students may find it difficult to keep a balance between participating in all these activities and still finding time to study.

Tertiary institutions should play a role in minimising the possibility of burnout by equipping students with the necessary knowledge, skills and resources to ensure a balance in the variety of tasks they need to perform. Also, the institution should take into consideration that not all students are full-time students and that part-time students have additional duties and responsibilities to perform. These students might not always be equipped to cope with role overload and other causes of burnout. Furthermore, the institution should have a support system/service in place offering students the opportunity to receive assistance if they are not coping with all the stressors. The availability of validated scales for the core dimensions of burnout and engagement might assist educators and administrators in helping students deal with the demands posed by the tertiary education environment.

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CHAPTER 3

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

Chapter 3 presents conclusions reached based on the findings of the empirical study. In addition, the limitations of the research are discussed and recommendations are made for tertiary institutions and future research.

3.1 CONCLUSIONS

The findings as they relate to the objectives set for this research can be summarised as follows:

Conceptualise burnout and engagement, as pertaining to students, from the literature.

Schaufeli, Martínez, Pinto, Salanova, and Bakker (2002) view burnout and engagement in a two-factor framework. Burnout is characterised by a combination of exhaustion (low activation) and cynicism (low identification), whereas engagement is characterised by dedication (high identification) and vigour (high activation). The findings of the present study reveal that only Cynicism had a Cronbach's alpha coefficient of below 0,70 and the two-factor models of burnout and engagement is therefore supported.

Determine whether the MBI-SS and the UWES-S show structural equivalence for a multicultural group of South African students.

In order to improve the reliability of the cynicism subscale in the burnout model, Item 14 ("I have become more cynical about whether my studies contributes anything") was removed and model fit to the data improved satisfactorily. With equality constraints imposed on all factor loadings, variances and co-variances for the language groups still showed acceptable fit to the data. Moving from separate models to the equality model saw a change in the $\chi^2 = 24,93$, and in the $df = 9$, which was not significant at the 0,001 level. It was therefore concluded that a burnout scale consisting of two dimensions, with Item 14 deleted from the cynicism scale, adequately described the burnout phenomenon in both the Afrikaans and African languages language groups.

For the vigour subscale of the engagement construct, Item 1 (“When I study, I feel like I am bursting with energy”) was removed in order to improve reliability. In comparing separate models to a model with equality constraints imposed on all factor loadings, variances and covariances for the Afrikaans and African languages language groups, the model was found to be equivalent across both samples. The change in $\chi^2 = 14,06$ and in $df = 10$ proved to be non-significant at the 0,001 level, indicating equivalence of the engagement measure, as consisting of two subscales, namely vigour and dedication, and with Item 1 deleted from the vigour scale.

Investigate the role of biographical variables in students’ experience of burnout and engagement.

Results of this study indicate that there is a significant difference in burnout and engagement levels of students from different language groups. Afrikaans-speaking students experience higher levels of exhaustion and cynicism than students from Sesotho and Setswana language groups. It was also found that students who experience better overall health have lower levels of exhaustion and cynicism than students who are not that healthy. Students who never consider quitting their studies have lower levels of burnout.

Students who do not consider quitting their studies experience higher levels of vigour and dedication than students who consider quitting their studies more often. Furthermore, it was found that students in their second year of study experience significantly higher levels of vigour than students in other year groups. Afrikaans-speaking students also experience significantly lower levels of vigour and dedication than Sesotho- and Setswana-speaking students.

Make recommendations for the use of the MBI-SS and UWES-S with South African University students.

In line with Bakker (2006), the recommendation is made that the core dimensions of burnout and engagement be studied when investigating these phenomena among South African tertiary students. Conceptually, the model is elegant in viewing burnout and engagement as opposite points on activation and identification dimensions. This study again demonstrated the reliability and structural equivalence of these dimensions (exhaustion, cynicism, vigour

and dedication). However, some items may be considered for deletion, namely one from the cynicism scale (“I have become more cynical about whether my studies contributes anything”), and one from the vigour scale (“When I study, I feel like I am bursting with energy”).

In future studies attention should also be given to the relationship between, language, year of study, perceptions of health, and consideration given to quitting studying when investigating differences in levels of burnout and engagement.

3.2 LIMITATIONS OF THE PRESENT RESEARCH

The questionnaires were completed by students of the Economics and Business Science faculties at both campuses. The group is very Human Resources-orientated, and results obtained can therefore not be generalised to students studying different courses at different faculties on campus, or even to other universities. The sample (N=353) is also too small to generalise the findings to the general student population. The data collection process, and the fact that it focused on self-report questionnaires, could have been enhanced by short interviews with each of the participants in order to clarify their responses and to gain more information. If this study would take the form of a longitudinal study, attention could firstly be given to the causes and effects of burnout and engagement experienced by students. Attention could also be given to the situational factors in the study, for example, the training environment in which the students find themselves, availability of resources, experience of overload and commitment.

3.3 RECOMMENDATIONS

3.3.1 Recommendations for tertiary institutions

Developing an awareness of the phenomenon of burnout among students will be a good and positive start for tertiary institutions. Oftentimes students are referred to as carefree, “without-a-worry-in-the-world” creatures, but this perception has been proven incorrect. With the ever increasing cost of tertiary education students often have to find a part-time job in order to pay for all the extra student-related activities such as Intervarsity, sport and social events, hostel functions and course-related activities/outings. With so many activities

happening in and around the campus, students might find it difficult to keep up the pace in participating in all these activities and still find time to study. Fellow students do not always accept the excuse of studying, and because test dates for all the courses do not always fall on the same day, someone has to sacrifice study time for a social event.

Tertiary institutions should play a role in minimising the possibility of burnout by equipping students with the necessary knowledge, skills and resources to ensure a balance in the variety of tasks they need to perform. Also, the institution should take into consideration that not all students are full-time students and that part-time students have additional duties and responsibilities to perform. These students might not always be equipped to cope with role overload and other causes of burnout. Furthermore, the institution should have a support system/service in place offering students the opportunity to receive assistance if they are not coping with all the stressors. Students who feel that the institution is not committed to them may in turn experience a decline in their commitment to the institution.

3.3.2 Recommendations for future research

Based on the results of this study, it is recommended that the MBI-SS and UWES-S be used to measure burnout and engagement among tertiary students in general. However, Items 1 from the vigour scale, and 14 from the cynicism scale should be deleted.

Attention should be given to the relationship between a student's home language and his/her levels of burnout and engagement in order to determine whether home language is the predicting factor or whether translation problems contribute to the variance in findings. A bigger sample of English-speaking students will be required for such a study. When studying the relationship between other languages and burnout and engagement, care should be taken to ensure that the samples are big enough and representative of the entire population.

Future research could also focus on the relationship between the student's current year of study, and burnout and engagement, as no previous research has been done in this regard, which makes it difficult to place these findings in context. Some hypotheses are however offered in Chapter 2. Future research would do well to investigate these differences again, and perhaps identify at which academic level students are most at risk of burnout, or most prone to engagement.

Future research could seek to clarify the relationship between the frequency at which students consider quitting their studies and burnout and engagement. Causality cannot be inferred in this cross-sectional data, but longitudinal data might shed light on a very important relationship. If findings suggest that burnout and engagement in tertiary students have a direct impact on their performance and success, as indicated by their intentions to terminate their studies, the management of these phenomena should receive far greater attention than is currently the case.

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