

WORK WELLNESS OF ACADEMIC STAFF IN SOUTH AFRICAN HIGHER EDUCATION INSTITUTIONS

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COMMENTS

The reader is reminded of the following:

- The references as well as the editorial style as prescribed by the *Publication Manual (5th edition)* of the American Psychological Association (APA) were followed in this thesis. This practice is in line with the policy of the Programme in Industrial Psychology of the North-West University to use APA style in all scientific documents as from January 1999.
- The thesis is submitted in the form of four research articles. The name of the promoter appears on each research article as it was submitted for publication in national and international journals. The editorial style specified by the *South African Journal of Industrial Psychology* (which agrees largely with the APA style) is used, but the APA guidelines were followed in constructing tables.

DEDICATION

The crown of achievement rises from delicate roots of an idea, enlightened and empowered by a solid axis of workmanship, research and integrity.

One person has been a model to me of purpose-driven, hardworking, commitment and perseverance. His memory continues to be my greatest inspiration and encouragement in an abiding journey of being a researcher. Without his friendship, motivation and tremendous support, advice and caring I would not have found the will to persevere.

In memory of my dearest friend and personal mentor,

Eben Kleyn

1969–2003

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SUMMARY

Topic: Work wellness of academic staff in South African higher education institutions.

Key terms: Burnout, work engagement, occupational stress, optimism, organisational commitment, life satisfaction, physical and psychological ill-health, job demands, job resources, academics, higher education institutions

Academia is a demanding profession, as evidenced by a body of research that documents the debilitating impact of occupational stress and burnout on the personal and professional welfare of academics. In particular, high levels of these pathological phenomena, left unchecked, undermine the quality, productivity and creativity of the academics' work in addition to their health, well-being and morale. Despite these indicators of "weaknesses" and "malfunctioning", academics know that there is times that they operate in a "milieu" of work – there is an intense focus and pleasurable emotions, accompanied by high levels of enthusiasm. Especially, with the upcoming positive paradigm in Occupational Health Psychology, "positive" trends such as work engagement, optimism, organisational commitment and life satisfaction are also commonplace among academics. The first step in the enhancement of work wellness is the successful diagnosis of stress, burnout and work engagement. However, to measure these constructs, it is important to use reliable and valid instruments, and at the same time, take into account the cultural diversity in a multicultural setting such as South Africa. Clearly then, an assessment of this type should be concerned with the issue of construct equivalency. Furthermore, little information exists regarding the causes and effects of occupational stress, burnout and work engagement of academics in South Africa.

The general aim of this study was to standardise an adapted version of the Maslach Burnout Inventory-General Survey (MBI-GS) and the Utrecht Work Engagement Scale (UWES) for academics in South African higher education institutions, to determine their levels of occupational stress, organisational commitment and ill-health, and to test a structural model of work wellness for South African academics.

A cross-sectional survey design was used, with stratified random samples ($N = 595$) taken of academics in six South African universities. The Maslach Burnout Inventory – General Survey, Utrecht Work Engagement Scale, Job Characteristics Inventory, the Health and Organisational Commitment subscales of the ASSET, The Life Orientation Test and Satisfaction with Life Scale were administered. Cronbach alpha coefficients, exploratory factor analysis, Pearson correlations, multivariate analysis of variance (MANOVA), one-way analysis of variance (ANOVA), t-tests and multiple regression analysis were used to analyse the data. Structural equation modelling was used to test a structural model of work wellness.

Exploratory factor analysis with target rotations resulted in a three-factor model of burnout, consisting of Exhaustion, Mental Distance and Professional Efficacy. The scales showed acceptable internal consistencies and construct equivalence for two language groups. Practically significant differences were found in the burnout levels of academics with regard to their age, marital status and working hours.

Exploratory factor analysis with target rotations resulted in a two-factor model of work engagement, consisting of Vigour/Dedication and Absorption. The scales showed acceptable construct equivalence for two language groups (Afrikaans and English). One scale, namely Vigour/Dedication showed acceptable internal consistency. Practically significant differences were found between the work engagement of academics with different job levels and qualifications.

Compared to the normative data, academics reported significantly high levels of stress relating to pay and benefits, overload and work-life balance. Academics also reported high levels of psychological ill-health, but experienced high levels of commitment both from and towards their organisation. Organisational commitment did not moderate the effects of occupational stress on ill-health. Analysis of variance revealed differences between the levels of occupational stress and ill-health of demographic groups.

Regarding a model of work wellness, the results showed that job demands contributed to burnout, while job resources contributed to work wellness (low burnout and high work engagement). Burnout mediated the relationship between job demands and ill-health; work wellness mediated the relationship between job resources and organisational commitment.

Dispositional optimism moderated the effects of a lack of job resources on work engagement.
Work wellness and health contributed to life satisfaction.

Recommendations for future research were made.

OPSOMMING

Onderwerp: Werkwelstand van akademiese personeel in Suid-Afrikaanse hoëronderrysinstellings.

Sleuteltermes: Uitbranding, werksbegeestering, beroepstres, optimisme, pessimisme, organisasieverbondenheid, lewenstevredenheid, fisieke en psigologiese ongesondheid, werkseise, werkskulpbronne, akademiese, hoëronderrysinstellings

Die akademie is 'n veeleisende beroep soos aangevoer deur navorsing wat getuig van die aftakelende impak van beroepstres en uitbranding op die persoonlike en professionele welstand van akademiese. Onbeheerde hoë vlakke van hierdie patologiese verskynsels kan lei tot ondermyning van die kwaliteit, produktiwiteit en kreatiwiteit van akademiese se werk, afgesien van die uitwerking op hul gesondheid, welstand en moreel. Ten spyte van hierdie aanduiders van "swakheid" en "abnormale funksionering", is akademiese daarvan bewus dat hulle somtyds binne 'n "milieu" kan funksioneer – 'n intense fokus en aangename emosies, gepaardgaande met hoë vlakke van entoesiasme word ervaar. Veral met die opkomende positiewe paradigma in Beroepsgesondheid, word "positiewe tendense" soos werksbegeestering, optimisme, organisasieverbondenheid en lewenstevredenheid ook algemeen onder akademiese aangetref. Die eerste stap in die fasilitering van werkverwante welstand behels die suksesvolle diagnose van stres, uitbranding en werksbegeestering. Ten einde die genoemde konstruksie te meet, is dit belangrik om betroubare en geldige instrumente te gebruik, en terselfdertyd die kulturele diversiteit van 'n multikulturele konteks soos Suid-Afrika in ag te neem. Dit is duidelik dat 'n meting van hierdie aard gemoeid behoort te wees met konstruksiekwivalensie. Verder is min informasie beskikbaar oor die oorsake en gevolge van beroepstres, uitbranding en werksbegeestering van akademiese in Suid-Afrika.

Die algemene doelstelling van hierdie navorsing was om 'n aangepaste weergawe van die Maslach Uitbrandingsvraelys – Algemene Opname (MBI-GS) en die Utrecht Werkbegeesteringskaal (UWES) te standaardiseer vir akademiese in Suid-Afrikaanse hoëronderrysinstellings, hul vlakke van werksstres, organisasieverbondenheid en gesondheid te bepaal, en 'n model van werkwelstand te toets.

'n Dwarsnee opname-ontwerp is gebruik, met 'n gestratifiseerde ewekansige steekproef ($N = 595$) geneem van akademici aan ses Suid-Afrikaanse hoëronderrysinstellings. Die Maslach Uitbrandingskaal – Algemene Opname, Utrecht Werksbegeesteringskaal, Werkskarakteristieke-vraelys, die Gesondheid- en Organisasieverbondenheidskaal van die ASSET, die Lewensorientasietoets en die Lewenstevredenheidskaal is afgeneem. Beskrywende statistiek, Cronbach alfakoeffisiënte, verkennende faktorontleding, Pearson korrelasies, meerveranderlike variansie-analise (MANOVA), eenrigting variansie-analise (ANOVA), t-toetse en meervoudige regressie-analise is gebruik om die data te ontleed. Strukturele vergelykingsmodellering is gebruik om 'n model van werkverwante welstand te toets.

Verkennende faktorontleding met teikenrotasies het geresulteer in 'n drie-faktormodel van uitbranding bestaande uit Uitputting, Mentale Afstand en Professionele Doeltreffendheid. Die skale het aanvaarbare interne konsekwentheid en konstrukekwivalensie vir twee taalgroepe getoon. Praktiese betekenisvolle verskille is gevind in die uitbrandingsvlakke van akademici ten opsigte van hul ouderdom, huwelikstatus en werksure.

Verkennende faktorontleding met teikenrotasies het geresulteer in 'n twee-faktormodel van werkbegeesting, bestaande uit Energie/Toewyding en Absorpsie. Die skale het aanvaarbare konstrukekwivalensie vir twee taalgroepe getoon. Een skaal, naamlik Energie/Toewyding het aanvaarbare interne konsekwentheid getoon. Praktiese betekenisvolle verskille is gevind tussen die werksbegeesting van akademici met verskillende posvlakke en kwalifikasies.

Vergeleke met die normatiewe data, het akademici hoër vlakke van stres ten opsigte van 'n gebrek aan betaling en byvoordele, oerlading en werk-huis balans getoon. Akademici het ook hoër vlakke van psigologiese ongesteldheid gerapporteer, maar het hoër vlakke van verbondenheid beide van en tot die organisasie ervaar. Organisasieverbondenheid het nie die effek van beroepstres op swak gesondheid gematig nie. Variansieanalise het verskille in die vlakke van beroepstres en swak gesondheid van demografiese groepe aangetoon.

Ten opsigte van 'n model van werkverwante welstand het die resultate aangetoon dat werkseise tot uitbranding bygedra het, terwyl werkshulpbronne tot werkswelstand (lae uitbranding en hoër werksbegeesting) bygedra het. Uitbranding het die verband tussen werkseise en swak gesondheid gematig; werkswelstand het die verband tussen

werkshulpbronne en organisasieverbondenheid gematig. Disposisionele optimisme het die effek van 'n gebrek aan werkshulpbronne op werksbegeestering gemodereer. Werkwelstand en gesondheid het tot lewenstevredenheid bygedra.

Aanbevelings vir toekomstige navorsing is aan die hand gedoen.

CHAPTER 1

INTRODUCTION

This thesis focuses on the work wellness of academic staff in South African higher education institutions.

Chapter 1 focuses on the problem statement, research objectives and research methodology. The chapter starts out with a problem statement, giving an overview of previous related research conducted on work wellness and specifically burnout, work engagement and occupational stress in the higher educational enterprise. The prior research is linked to the research project at hand and its research objectives. A discussion of the research method follows, with an explanation regarding the research design, participants, measuring instruments and statistical analysis. The chapter concludes with an overview of the chapters comprising this thesis.

1.1 PROBLEM STATEMENT

The concepts of "healthy work", "wellness" and "knowledge" in the workplace have passed the point of being a fad and have been established as fixed images in the public's perception as guides towards generating desirable changes in working life (Chen, 1988). A country's international competitiveness and growth of the knowledge community depends on its highly skilled population having a higher educational background. Higher education institutions, in particular, have a significant role to play in a nation's wealth with its hard-edged capacity to foster intellectual capital, economic growth, stimulate development and innovation in a 'knowledge economy' (Robertson, 1998).

However, since 1994, not only the concept of work rapidly changed in South African higher education, but also 'work itself'. In particular, four trends emerged that created turbulent environments for higher educational institutions (Clarke, 2000). First, the demands for participation changed the student entry profile from the elite to the mass to universal. Consequently, not only the student: staff ratio increased dramatically, but academic staff were expected to deal with a greater diversity of students who were culturally different from those with whom they had been involved in the past (Fourie & Alt, 2000). Secondly, an increasing

number of occupations exact a level of knowledge and skill not provided by secondary education. The high-knowledge intensive fields, changing faster than people are able to change their skills, hold tertiary-education institutions responsible for up-to-date information. Thirdly, government and private sectors increasingly exhort tertiary education institutions, as integral part of society, to assist them in solving problems across a broad spectrum. Academics are expected to deliver the requisite research, provide training of highly skilled person power, and engender the creation of relevant useful knowledge for equipping a developing society to participate completely in a rapidly altering national and international global context. Fourthly, the globalisation of knowledge propels its growth at an accelerating pace.

Du Toit (1996) however, points out that any attempts to change education by means of finding a better match between the opportunities and threats posed by a changing environment and institutional strategies, are bound to be difficult and complex. Indeed, the above-mentioned developments present major complications for academic staff. The environment in which academics in South Africa functions, now demands more of them than did in any other period. The employment relationship has changed (i.e., teacher-driven to student-driven), altering the type of work that people do, when they work and how much they do (Baling, 1999; Blakemore, 2001). Academics are required to make paradigm shifts, adopt new policies and practices, and approach their endeavours in new and innovative ways (Fisher, 1994; Fourie, 1999; Fourie & Alt, 2000). Furthermore, the language of 'middle managers', 'customers' and 'products' have displaced the academic language of deans, students and courses (Winter, Taylor, & Sarros, 2000). As a result, academics aside from fulfilling traditional roles such as teaching and research, are also expected to "act" as marketers, entrepreneurs, facilitators and managers. Although such supplementary tasks may be considered a healthy diversification of one's job, the persistent demands coupled with these roles could almost inevitably lead to adverse consequences for academic staff (Sing & Bush, 1998).

Accordingly, it appears that the job demands of academics have escalated, whilst the levels of support and other resources have declined. Furthermore, the literature is quite clear about the negative effects of high job demands and low resources on academic well-being with specific reference to incidences of stress, burnout and ill-health (Barkhuizen, Rothmann, &

Tytherleigh, in press; Kinman & Jones, 2003). Therefore, the study of wellness of academics seems imperative from a research point of view.

A holistic and integrated model of work wellness is needed in South Africa. Schaufeli and Bakker (2001) developed a model of well-being at work which could be of use when focusing on work wellness. These authors distinguish between two dimensions that could be used to classify four types of well-being at work. The horizontal axis represents the extent of contentment at work (i.e., pleasurable versus unpleasurable). The vertical dimension relates to the mobilisation of energy. This taxonomy makes it possible to distinguish between work engagement and burnout. Burnout is a metaphor that is commonly used to describe a state or process of mental exhaustion (Schaufeli & Enzmann, 1998). Engagement is defined as an energetic state in which the employee is dedicated to excellent performance at work and is confident of his or her effectiveness (Schutte, Toppinen, Kalimo, & Schaufeli, 2000).

Concerns about faculty burnout have been articulated over the past two decades dating back to the early 1980s (i.e., Melendez & de Guzman, 1983). According to Talbot (2000), faculty burnout is an emotional phenomenon associated with high achievement in the academic role. Many educators for example enter the field eager to teach, and create, only to experience what so many other professional educators have encountered – the fire to teach has dwindled to a mere spark. Presumably, high expectations lead people to work too hard and do too much, thus leading to burnout when the high effort does not yield the expected results (Maslach, Schaufeli, & Leiter, 2001). More seriously, the devastating impact of burnout on academics such as declining mental and physical health (Barkhuizen et al., in press), drug and alcohol abuse (Watts et al., 1991) and deterioration in teaching and research performance (Dick, 1992; Singh, Mishra, & Kim, 1998) holds serious repercussions for education and academic careers are becoming less attractive.

According to the most often used definition, burnout is a multi-dimensional construct consisting of (emotional) exhaustion, cynicism (or depersonalisation), and professional efficacy (or personal accomplishment ‘;’ Maslach & Jackson, 1986; Maslach, Jackson, & Leiter, 1996). The above three-component conceptualisation embodies the most widely accepted model of burnout (Cooper, Dewe, & O’Driscoll, 2001), partly because Maslach and her associates constructed an easy-to-use questionnaire (the Maslach Burnout Inventory – MBI) of which three versions exist: the Human Services Survey (HSS), the Educators Survey

(ES) and the General Survey (GS). For almost two decades researchers have taken the simplistic view that burnout is a problem reserved only for the so-called helper professions and, as measured by ES and HSS, is characterised in terms of emotional exhaustion, depersonalisation and lack of personal accomplishment. However, with the introduction of the General Survey (GS) in 1996, more research has been focused on other sectors of work (Maslach et al., 1996). The MBI-GS is more generic and assesses parallel dimensions (Exhaustion, Cynicism and lack of Professional Efficacy) to those contained in the original MBI.

Applied within the South African context, several studies confirmed the factor structure of the various forms of the MBI, as well as the internal consistency of the subscales (i.e., Rothmann & Jansen van Vuuren, 2002; Rothmann & Malan, 2003; Rothmann, Jackson, & Kruger, 2003; Storm & Rothmann, 2003a). Moreover, both the MBI-ES and MBI-GS have been found usable on samples of academics staff (Barkhuizen et al. in press; Pretorius, 1994). Clearly, academics might be both depersonalised and cynical as measured by the MBI-ES and MBI-GS respectively. However, when the MBI-GS is used to measure burnout among academics, the interpersonal quality of burnout (depersonalisation) is lost. To overcome this problem, Schaufeli (2003) suggested that the depersonalisation scale of the MBI-ES should be included in addition to the MBI-GS. Indeed, more recently Jackson and Rothmann (2004) found that such an adapted version of MBI-GS is usable on a sample of 1170 South African teachers. Moreover, these authors found that burnout is not characterised by two separate cynicism and depersonalisation dimensions – instead, the two merged into one mental distance construct. Thus, according to this measurement, exhaustion (low energy) and mental distancing (poor identification) are the basic hallmarks of burnout, with professional efficacy playing a less dominant role.

In sum: the first research problem is that an adapted version of the MBI-GS is not validated and standardised for academics in South Africa. The question that arises is whether it is possible, when the depersonalisation subscale is included in addition to the MBI-GS, that academics might be either depersonalised or cynical, neither depersonalised nor cynical or both depersonalised and cynical. Furthermore, with only two studies to date using the MBI-GS in samples with academics (see Barkhuizen et al. in press; Taris, Schreurs, & Schaufeli, 1999) coupled with little information available on its reliability and validity (Rothmann, 2003), it is difficult to place the results into context.

With Occupational Health Psychology moving towards a more positivistic paradigm, it is not surprising that the concept of burnout has recently been supplemented by its positive antidote, namely work engagement (Schaufeli, 2003). While no definitive consensus regarding a formal definition of the term "engagement" appears in research literature (Finn & Rock, 1997), some common threads have emerged about the nature of the construct. One point of agreement seems to be that employee engagement involves the expression of the self through work and other employee-role activities. This conceptualisation can be seen in the definitions of engagement by Schaufeli and Bakker (2004), and Kahn (1990). Schaufeli and Bakker defined engagement as "a positive, fulfilling work-related state of mind that is characterized by vigour, dedication and absorption" (2004, p. 295). Similarly, Kahn referred to engagement as "the harnessing of organisation members' selves to their work roles (by which they) employ and express themselves physically, cognitively and emotionally during role performances" (1990, p. 264). Implicit in these definitions is a second commonality, namely, that engagement occurs on a regular, day-to-day basis, and is actively applied to and through the employee's work behaviours (see also Harter, Schmidt, & Hayes, 2002; May, Gilson, & Harter, 2004).

Yet another thread running through the research on engagement is that it is multi-dimensional. For instance, in addition to Kahn's (1990) definition incorporating cognitive, emotional and physical dimensions, and Schaufeli and Bakker's (2004) representation including elements labelled vigour, dedication and absorption, Maslach and Leiter (1997) portrayed engagement as a polar opposite of burnout, with components consisting of energy, involvement and efficacy. In all of these constructions, a fourth point of cohesion is present, namely, that engagement leads to human benefits for the individual experiencing it. Examples of these benefits include an infusion of energy, self-significance, and mental resilience (Schaufeli & Bakker, 2004), a fulfilment of the human spirit through the work role (May et al., 2004), and the preservation of one's self in the face of demands (Leiter & Harvey, 1998). Furthermore, these individual outcomes also frequently rebound positively on organisations. Organisational benefits gained from employee engagement have include greater achievement of individual work goals i.e., productivity (Schaufeli & Bakker, 2004), customer satisfaction and profitability (Harter et al., 2002). Obviously, these organisational benefits can only occur through the efforts of individual employees, which makes employee retention a critical issue for employers.

Regarding the measurement of engagement, two distinct views exist. First and foremost, Maslach and Leiter (1997) argue that engagement, as the hypothesised opposite of burnout, should be assessed by the opposite pattern of scores of the three MBI dimensions. Thus in the view of these authors, low scores on exhaustion and cynicism and high scores on efficacy are indicative of engagement. However, by using the MBI for measuring engagement, it is impossible to study its relationship to burnout empirically, since both concepts are considered to be the opposite poles of a continuum that is covered by a single instrument, the MBI. As a consequence, engagement is operationalised in its own right (Schaufeli, Salanova, González-Romá, & Bakker, 2002). Accordingly, these authors developed the Utrecht Work Engagement Scale (UWES) to measure engagement and found acceptable reliability for it. Confirmative factor analysis has demonstrated its factorial validity (Schaufeli et al., 2002).

Applied within the South African context, most studies confirmed a three-factor solution (i.e., Storm & Rothmann, 2003b; Jackson & Rothmann, in press) for the UWES, while one study obtained a two-factor structure (Naudé & Rothmann, 2004). Furthermore, internal consistencies seem promising, or at least for the vigour and dedication scales. Compared to the European countries, South African studies indicated much lower alpha coefficients on the absorption subscale, to the extent that it was not considered useful in an analysis with demographic variables (i.e., Jackson & Rothmann, in press). These authors found an alpha value of 0,57 in a study of teachers, while Naudé and Rothmann (2004) obtained an alpha score of 0,61. Storm and Rothmann's (2003b) results however, were more promising with $\alpha = 0,78$ for absorption. Although there is support for the use of UWES in the police service (Storm & Rothmann, 2003b), emergency health workers (Naudé & Rothmann, 2004), teachers (Jackson & Rothmann, in press) and insurance company workers (Coetzer & Rothmann, 2004), there is also the need to examine the construct validity and internal consistency in higher education. The second research problem is, therefore, that the UWES has not been validated and standardised for academics in higher education institutions in South Africa.

It is important to consider the cultural diversity in a multicultural setting such as South Africa when studying wellness. Individuals of all cultures represent academics in South Africa – the scores obtained for one culture will not necessarily emphasise the view of other cultures. In line with the recommendations of Poortinga (1992) and Van de Vijver and Leung (1997),

construct equivalence and item bias should be tested for in a multi-cultural context where differences in scores could be attributed to cultural influences in terms of item meaning and understanding, rather than the differences resulting from the measurement of the constructs by means of measuring instruments. If cultural influences are not accounted for, invalid conclusions regarding the constructs being studied could be made with serious implications for culturally diverse settings such as South Africa. So far, the cross-cultural utility of the MBI has been confirmed in South African studies with regard to different race (Storm & Rothmann, 2003a) and language groups (Jackson & Rothmann, 2004) respectively. Storm and Rothmann (2003b) confirmed the structural equivalence of the UWES for four race groups, whilst Jackson and Rothmann (in press) more recently found that the UWES showed construct equivalence for various South African language groups. Although the cross-cultural utility of both the MBI and UWES seems promising in South Africa, information on the construct equivalence of adapted models of burnout and engagement is still lacking, particularly among academic staff members.

A third research problem is that little information exists regarding the stressors and strains for academic staff in higher education institutions in South Africa. The impact that increased working pressures have on health and well-being is well documented, and, while it is recognised that not all pressure has adverse consequences, stress occurs when individuals cannot fulfil the demands that such pressure places on them (Cooper, Sloane, & Williams, 1988). In particular, there is growing evidence that higher education institutions no longer provide the low-stress working environments that they once did. In fact, academics throughout the world deal with a substantial amount of ongoing occupational stress (Kinman, 2001). Although the specific impact of occupational stress within the academic sector is still not understood, it is well documented that high levels of occupational stress, left unchecked and unmanaged, undermine the quality, productivity and creativity of the academic's work in addition to their health, well-being and morale (see Doyle & Hind, 1998; Kinman, 1996; 1998; Watts et al., 1991; Winefield, Gillespie, Stough, Dua, & Hapuararchchi, 2002).

Most of what is currently known about academic stress comes from studies carried out in the United States of America (USA), United Kingdom (UK), New Zealand and Australia (Blix, Cruise, Mitchell, & Blix, 1994; Boyd & Wylie, 1994; Doyle & Hind, 1998; Gillespie, Walsh, Winefield, Dua, & Stough, 2001; Kinman & Jones, 2003; Winefield et al., 2002). These studies furthermore mapped out important domains of job stressors commonly associated

with stress among academic staff, which include a lack of work control (Fisher, 1994; Kinman, 1998); work overload (Daniels & Guppy, 1994; Jackson & Hayday, 1997) role conflict or role ambiguity (Gmelch, Lovrich, & Wilke, 1984; Lease, 1999), lack of social support and research funding (Doyle, 1998; Abouserie, 1996), lack of career achievement (Cross & Carroll, 1990; Kinman, 1996), organisational climate (Earley, 1994; Gillespie et al., 2001) and home-work interface (Doyle & Hind, 1998; Sorcinelli & Near, 1989). Decades of research support the significance of these work stressors, establishing their – plausibly causal – relationship to physical and psychological strains among academics (see Kinman, 2001).

Given a research tradition, which places considerable emphasis on understanding individual differences between people in their perception of, and reaction to stress, it is not surprising that the curiosity of researchers has led them inevitably to turn their attention to exploring the role of a range of individual differences (Cooper & Dewe, 2004). Individual differences have been hypothesised as influencing the stressor-strain relationship in one of three ways: *directly* (impact on the level of strain), or by operating as a *moderator* (alter the strength or direction of the stress-strain relationship) or *mediator* (become responsible for the transmission of an effect) of the stress-strain relationship. Organisational commitment is considered as a moderator of stress in this study.

Organisational commitment, defined as the psychological attachment of workers to their organisations, has been one of the most popular organisational research subjects during the past three decades (Benkhoff, 1997; Eby, Freeman, Rush, & Lance, 1999). Commitment to the organisation has been found to relate positively to a variety of desirable work outcomes including organisational citizenship, job satisfaction, job involvement, job performance and found to be negatively correlated to absenteeism and turnover (Finegan, 2000; Organ & Ryan, 1995; Mathieu & Zajac, 1990). Furthermore, organisational commitment is a well-established indicator of motivation at work (Mayer & Schoorman, 1992; Brown, 1996) and moderator of stress (Chui & Kosinski, 1995; Siu, 2002) particularly during periods of organisational change.

Regarding work wellness, linkages with burnout research suggest that while organisational commitment seems to diminish in the presence of burnout (Leiter & Maslach, 1988), engagement is a useful indicator of commitment, and to such an extent that engaged employees are loyal and psychologically committed to the organisation (Blizzard, 2002).

People who are engaged in their jobs tend to be committed to their organisations and vice versa. In fact, in many organisations, work engagement and organisational commitment are closely related to the extent that it makes sense to talk about a more general outcome – organisational engagement – that combines key elements of work engagement and organisational commitment (Roberts & Davenport, 2002).

Finally, organisational approaches to work wellness are usually descriptive in nature. That is, instead of explaining work wellness they describe what types of organisational variables are related to wellness (Schaufeli, 2003). Such heuristic models have received some empirical support (i.e., Golembiewski, Boudreau, Munzenrider, & Luo, 1996). An exception has to be made for the recently developed Job Demand-Resources (JD-R) model, which assumes that two underlying psychological processes play a role in burnout (as one aspect of wellness at work): an effort-driven process in which excessive job demands lead to exhaustion and a motivation-driven process in which insufficient resources lead to disengagement (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001).

Schaufeli and Bakker (2004) extended the JD-R model by including engagement and by adding indicators for health impairment and organisational withdrawal in the Comprehensive Burnout and Engagement (COBE) Model. The COBE-model assumes two psychological processes, namely an energetic and a motivational process. The energetic process links job demands with health problems via burnout. The motivational process links job resources via work engagement with organizational outcomes. Job resources may play either an intrinsic motivational role (by fostering the employee's growth, learning and development), or they may play an extrinsic motivational role (by being instrumental in achieving work goals). Schaufeli and Bakker (2004) confirmed the model in an empirical study in the Netherlands. Job demands were associated with exhaustion, whereas job resources were associated with work engagement. Burnout was related to health problems as well as to staff turnover intentions. Burnout furthermore, mediated the relationship between job demands and health problems, while work engagement mediated the relationship between job resources and turnover intentions. Various studies were conducted to test the COBE model in South Africa (i.e., Barkhuizen et al., in press; Jackson & Rothmann, 2004).

More recently, there has been an explosion of interest by health psychologists on the effects of optimism and pessimism on human well-being. According to Scheier and Carver (1985), *optimism* and *pessimism*, defined as generalised positive and negative outcome expectancies, represent relatively stable individual-differences variables that either promote or abate psychological and physical well-being. As dispositional traits, higher optimism and lower pessimism, were shown to have positive effects on both exhaustion and depersonalisation (Riulli, & Savicki, 2003). Moreover, dispositional optimism as such, has been of considerable interest as a potential moderator of the relationship between job stressors and psychological strain (Cooper et al., 2001). More specifically, optimism has been found to moderate the relationships between daily hassles and health outcomes (i.e., symptoms of physical illness, feelings of exhaustion, burnout ‘;’ Fry, 1995), hassles and psychological symptoms and perceived stress and depression (Sumi, Horie, & Haykawa, 1997). Also, within the South African context, Barkhuizen et al. (in press) found that dispositional optimism moderated the effects of high job demands and a lack of job resources on academic burnout. Based on these results, dispositional optimism is considered as a potential moderator of the positive (work engagement) and negative (burnout) components of work wellness in this study.

In the last instance, a person is as well as he perceives himself to be (Diener, Suh, Lucas, & Smith, 1999). Clearly then conceptions of wellness should involve components such as life satisfaction. Overall life satisfaction is defined as the degree to which the experience of an individual's life satisfies that individual's wants and needs, both physically and psychologically (Rice, 1984). This author, furthermore developed a model, proposing that work conditions influence life satisfaction by changing characteristics of the person or the environment. Such changes include short-term effects of work (i.e., changes in mood, energy level and interests) and long-term effects of work (i.e., changes in skills, personality and health). As burnout may be conceived as a long-term consequence of work (Shirom, 2003), it can be used as an indicator of the perceived quality of one's working life. Indeed, two recent studies found that life satisfaction is inversely related to negative outcomes of wellness such as exhaustion and disengagement (Demerouti, Bakker, Nachreiner, & Schaufeli, 2000; Lee, Hwang, Kim, & Daly, 2004). In the last instance, the study of subjective well-being is, due to its democratic nature, particularly relevant in the South African context since the country is continuously moving towards a democratic dispensation, thus granting respect to what people think and feel about their lives (Diener, Lucas, & Oishi, 2002; Dlamini, 1995; Westaway, Maritz, & Golele, 2003).

Taken together, in the light of the above-mentioned discussion, it seems vital that a holistic and integrated model of work wellness should be developed for academics within South African higher education institutions. Thus, the last research problem is that a lack of information exists regarding a structural wellness model that incorporates a combination of burnout (exhaustion and mental distance), work engagement (vigour and dedication), organisational commitment, optimism, life satisfaction, health outcomes and situational causes (i.e., job demands and job resources) for academic staff in South African higher education institutions.

Based on the above mentioned problem statement, the following research questions arise:

- What are the psychometric properties of an adapted version of the Maslach Burnout Inventory-General Survey (MBI-GS) for academic staff in South African higher education institutions and do differences exist between the levels of burnout of different demographic groups?
- What are the psychometric properties of the Utrecht Work Engagement Scale (UWES) for academic staff of different language groups in South African higher education institutions and do differences exist between the work engagement of different demographic groups?
- What are the indicators of occupational stress for academic staff in South African higher education institutions, do differences exist between the occupational stress of the different demographic groups, and does organisational commitment moderate the effects of occupational stress on ill-health?
- Is it possible to test a model of work wellness for academic staff in higher education institutions in South Africa?

This research will make the following contributions to Industrial Psychology as a science:

- It will result in a measuring instrument for burnout of academic staff in higher education institutions, which has been proven to be reliable, valid and structurally equivalent.
- It will result in a measuring instrument for engagement of academic staff in higher education institutions, which has been proven to be reliable, valid and structurally equivalent.

- A model of occupational stress will exist, which could be used to predict occupational stress of academic staff in higher education institutions.
- A structural model of work-related well-being will exist, which could be used to predict burnout, work engagement, ill-health and commitment of academic staff in higher education institutions.

1.2 RESEARCH OBJECTIVES

1.2.1 General objective

The general aim of this study is to standardise an adapted version of the Maslach Burnout Inventory-General Survey (MBI-GS) and the Utrecht Work Engagement Scale (UWES) for academics in South African higher education institutions, to assess their levels of occupational stress, organisational commitment and ill-health, and to test a structural model of work wellness for South African academics.

1.2.2 Specific objectives

- To assess the psychometric properties of an adapted version of the Maslach Burnout Inventory-General Survey (MBI-GS) for academic staff in South African higher education institutions and to investigate differences between burnout of the different demographic groups.
- To assess the psychometric properties of the Utrecht Work Engagement Scale (UWES) for academic staff of different language groups in South African higher education institutions and to investigate differences between work engagement of the different demographic groups.
- To assess the indicators of occupational stress for academic staff in South African higher education institutions, to analyse the differences between the occupational stress of the different demographic groups, and to investigate whether organisational commitment moderates the effects of occupational stress on ill-health.
- To test a model of work wellness for academic staff in higher education institutions in South Africa.

1.3 RESEARCH METHOD

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

1.3.1 Literature review

The literature review focuses on previous research on burnout, work engagement and occupational stress and the measurement of these constructs. An overview is given of the conceptualisation of these constructs in literature, and on the findings in terms of measuring burnout, work engagement and strain.

1.3.2 Empirical study

The empirical study entails that the specifically stated objectives can be achieved as follows:

1.3.2.1 Research design

A cross-sectional survey design was used to collect the data and attain the research goals. One group of people was observed at one point of time (Neuman, 2000). A sample is drawn from a population at a specific time (Shaughnessy & Zechmeister, 1997). This design is also used to assess interrelationships among variables within a population. According to Shaughnessy and Zechmeister (1997), this design is ideally suited to the descriptive and predictive functions associated with correlation research.

1.3.2.2 Participants

The participants were academic staff members of six South African universities. Two thousand questionnaires were sent to randomly selected participants. A total of 633 questionnaires were returned, and 595 were found usable for data analysis. This represents a 28,33% response rate.

The sample consisted mainly of permanent (86,2%), Afrikaans speaking (63,9%), females (50,1%), who are married (67,6%), with the mode rank of lecturer (29,6%), in possession of a doctoral degree (48,2%) and focusing on both research and lecturing (66,9%).

1.3.2.3 Measuring instruments

The Maslach Burnout Inventory – General Survey, the Utrecht Work Engagement Scale, An Organisational Stress Screening Tool, the Job Characteristics Scale, the Life Orientation Test – Revised, the Satisfaction with Life Scale and a biographical questionnaire are used in this study.

The Maslach Burnout Inventory – General Survey (MBI-GS) is used to measure the Exhaustion (5 items), Cynicism (5 items) and Professional Efficacy (6 items) dimensions of burnout. The Depersonalisation (5 items) dimension of the Maslach Burnout Inventory Educator Survey (MBI-ES) was also included in the questionnaire. On the scale the word 'recipients' (MBI-GS), found on the original scale was replaced by 'student' (MBI-ES). Responses, to 21 items, are made on a six-point scale varying from 0 (*never occurs*) to 6 (*occurs everyday*). High scores on Exhaustion and Cynicism/Depersonalisation, and low scores on Professional Efficacy are indicative of burnout. Internal consistencies (Cronbach coefficients alphas) for the MBI-GS reported by Maslach et al. (1996) varied from 0,87 to 0,89 for exhaustion, 0,73 to 0,84 for Cynicism and 0,76 for Professional Efficacy. An internal consistency, 0,79 was reported for Depersonalisation as measured by the MBI-ES (Maslach & Jackson, 1986). Applied within the South African context, recent studies using the MBI-GS obtained Cronbach alphas of 0,88 to 0,89 (Exhaustion), 0,78 to 0,76 (Cynicism) and 0,79 to 0,85 (Professional Efficacy) in a sample of police workers (Storm & Rothmann, 2003a) and social workers (Rothmann & Malan, 2003).

The *Utrecht Work Engagement Scale (UWES)* (Schaufeli et al., 2002) is used to measure the levels of engagement. Four items in which the language was simplified were added to the 17-item UWES. Three dimensions of engagement can be distinguished, namely Vigour (6 items; i.e., "I am bursting with energy in my work"), Dedication (5 items; i.e., "I find my work full of meaning and purpose") and Absorption (6 items; i.e., "When I am working, I forget everything else around me"). Engaged individuals are characterised by high levels of Vigour and Dedication and also elevated levels of Absorption. In terms of internal consistency,

reliability coefficients for the three subscales have been determined between 0,68 and 0,91. In a South African sample of police officers, Storm and Rothmann (2003) obtained the following alpha coefficients for the two sub-scales: Vigour: 0,78; Dedication: 0,89 and Absorption: 0,78. Other South African studies obtained Cronbach alpha coefficients varying from 0,70 for Vigour and 0,81 for Dedication to 0,87 (Vigour/Dedication) and 0,57 to 0,61 for Absorption (Jackson & Rothmann, in press; Naudé & Rothmann, 2004). In light of the fact that most items on the UWES are framed in a positive manner it is decided to include and mix the items of an adapted version of the MBI-GS (including the Depersonalisation scale of the MBI-ES) in one questionnaire. The latter is predominantly phrased in a negative manner and should guard against the possibility of response sets.

An *Organisational Stress Screening Tool* (ASSET) is used in this study. The ASSET was developed by Cartwright and Cooper (2002) as an initial screening tool to help organisations assess the risk of occupational stress in their workforce. It measures potential exposure to stress in respect to a range of common workplace stressors. It also provides important information on current levels of physical health, psychological well-being and organisational commitment and provides data to which the organisation can be compared. The ASSET comprises four main questionnaires: *Perceptions of your job*: 37 items scored from 1 (strongly disagree about being *troubled*) to 6 (strongly agree about being *troubled*); *Attitudes towards your organisation*: nine items scored from 1 (strongly disagree) to 6 (agree); *Your health*: 19 items on two subscales – Physical health and Psychological well-being – four items scored from 1 (never experienced the ill-health symptom or change of behaviour over the last three months) to 4 (often experiences the ill-health symptom or change of behaviour over the past three months); *Supplementary information*: 24 customised items to obtain biographical and demographical information specific to the higher education institutions.

The ASSET has an established set of norms from a database of responses from 9188 workers in the public and private sector (non-higher education institutions) organisations in the UK. Validity is still to be completed (Cartwright & Cooper, 2002). Reliability is based on the Guttman split-half coefficient. All but two factors returned coefficients in excess of 0,70 ranging from 0,60 to 0,91 (Cartwright & Cooper, 2002). Johnson and Cooper (2003) found that the Psychological Well-Being subscale has good convergent validity, with an existing measure of psychiatric disorders, the General Health Questionnaire (GHQ – 12; Goldberg & Williams, 1988). Tytherleigh (2003) used the ASSET as an outcome measure of job

satisfaction in a nationwide study of occupational stress levels in 14 English higher education institutions. The Cronbach alphas for the five ASSET subscales vary from 0,64 – 0,94, which show acceptable internal consistency.

The *Job Characteristics Scale* (JCS) is developed by the authors to measure job demands and job resources for employees. The JCS consists of 41 items. The questions are rated on a four-point scale ranging from 1 (*never*) to 4 (*always*). The dimensions of the JCS include pace and amount of work, mental load, emotional load, work variety, opportunities to learn, work independence, relationships with colleagues, relationship with immediate supervisor, ambiguities of work, information, communications, participation, contact possibilities, remuneration and career possibilities.

The Life Orientation Test – Revised (LOT-R), a 10-item measure, was developed by Scheier, Carver and Bridges (1994) to measure dispositional optimism. Six items contribute to the optimism score and four items are fillers. The original Life Orientation Test, which hypothesised a two-factor structure of optimism (i.e., optimism and pessimism), was questioned (Harju & Bolen, 1998). Follow-up analysis has demonstrated a one-factor structure, indicating that the LOT-R is measuring a continuum of high, average and low optimism/pessimism (Scheier et al., 1994). The LOT-R measures optimism/ pessimism on a five-point Likert Scale, ranging from 1 (*I strongly disagree*) to 5 (*I strongly agree*). The LOT-R was found to have adequate internal consistency ($\alpha = 0,78$), and excellent convergent and discriminant validity (Scheier et al., 1994). Based on a sample of 204 college students, Harju and Bolen (1998) obtained a Cronbach alpha coefficient of 0,75. Within the South African context, Coetzer and Rothmann (2004) found adequate internal consistency for the LOT-R ($\alpha = 0,70$).

The *Satisfaction with Life Scale* (SWLS), a five item measure, was developed by Diener, Emmons, Larsen, and Griffin (1985) to measure life satisfaction. According to Diener et al. (1985) the SWLS is designed around the idea that one should ask respondents about the overall judgement of their life in order to measure the concept of life satisfaction. Participants are asked to indicate their degree of agreement or disagreement on a seven-point Likert scale varying from 1 (*strongly disagree*) to 6 (*strongly agree*). Scores on the SWLS range from 5 to 35, with higher scores indicating greater life satisfaction. Diener et al. (1985) reported a

two-month test-retest correlation coefficient of 0,82 and a Cronbach's alpha coefficient of 0,87. The inter-item correlation matrix was factor analysed, using principal axis factor analysis. According to the eigenvalues a single factor emerged, accounting for 66% of the variance (Diener et al., 1985).

A *questionnaire* was developed to gather information about the demographic characteristics of the participants. Information that was gathered included the following: city and university, gender, marital status, satisfaction with current relationship/marriage/single status, language, age, educational qualifications, job category, job title, main educational focus, years in current institution, years in current job, chances of promotion, basis of employment, actual number of weekly working hours, number of working hours outside normal office hours in a workweek, amount of time travelling to and from workplace, annual leave, quitting the job, social activities, hobbies, relaxation, planned exercise, ideal exercise programme, smoking behaviour, amount of cigarettes smoked per day, alcoholic behaviour and units of alcohol consumed per week.

1.3.2.4 Statistical analysis

The statistical analysis is carried out with the aid of the SAS-program (SAS Institute, 2000), the SPSS-program (SPSS Inc., 2003) and the Amos-program (Arbuckle, 1999). The SAS-program is used to carry out statistical analysis (ANOVAs and MANOVAs) and to determine the differences between burnout, work engagement and occupational stress of the sub-groups in the sample. The SPSS-program is used to carry out statistical analysis regarding reliability and validity of the measuring instruments, descriptive statistics, t-tests, analysis of variance, correlation coefficients, predictive bias and multiple regression analyses. The SAS program is used to determine the differences between burnout, work engagement and occupational stress of the sub-groups in the sample. The AMOS-program is used to carry out structural equation modelling and test a structural model of work wellness.

The reliability and validity of the measuring instruments are assessed with the use of Cronbach alpha coefficients and factor analyses (Clark & Watson, 1995). Descriptive statistics (i.e., means, standard deviation and kurtosis) are used to analyse the data. Exploratory factor analysis and structural equation modelling are used to assess the structure of the measuring instruments.

In terms of statistical significance, a value at a 95% confidence interval level ($p \leq 0,05$) is set. Effect sizes (Steyn, 1999) are used to decide on the practical significance of the findings. Pearson product-moment correlation coefficient specifies the relationship between the variables. A cut-off point of 0,30 (medium effect, Cohen, 1988) is set for the practical significance of correlation coefficients.

Structural equation modelling (SEM) as implemented by AMOS (Arbuckle, 1999), are used to test a structural model of work wellness, using the maximum likelihood method. Structural equation modelling is a statistical methodology that takes a confirmatory approach to the analysis of a structural theory bearing on the same phenomenon (Byrne, 2001). Several aspects of SEM set it apart from the older generation of multivariate procedures (Byrne, 2001). First, it takes a confirmatory rather than an exploratory approach to data analysis. Furthermore, by demanding that the pattern of inter-variable relations specifies a priori, SEM lends itself well to the analysis of data for inferential purposes. Second, although traditional multivariate processes are incapable of either assessing or correcting measurement error, SEM provides explicit estimates of these error variance parameters. Third, SEM procedures can incorporate both unobserved (latent) and observed variables. Hypothesised relationships are tested empirically for goodness of fit with the data.

Multivariate analysis of variance (MANOVA) is used to determine the significance of differences between the levels of burnout, work engagement, occupational stress, ill-health (physical and psychological) and organisational commitment of demographic groups. MANOVA tests whether mean differences among groups on a combination of dependent variables are likely to have occurred by chance (Tabachnick, & Fidell, 2001). In MANOVA a new dependent variable that maximizes group differences is created from the set of dependent variables. One-way analysis is then performed on the newly created dependent variable. Wilk's Lambda is used to test the significance of the effects. Wilk's Lambda is a likelihood ratio statistic that tests the likelihood of data under the assumption of equal population mean vectors for all groups against the likelihood under the assumption that the population mean vectors are identical to those of the sample mean vectors for different groups. When an effect is significant in MANOVA, ANOVA is used to discover which dependent variables are affected. Because multiple ANOVAs is used, a Bonferroni type adjustment is made for inflated Type 1 error.

Standard multiple regression analysis is used to test whether the regression coefficient of one independent variable varies over the range of another independent variable. If so, the one independent variable moderates the relationship between the other independent variable and the dependent variable. If interactions of independent variables are included in the prediction equation, they can cause problems of multicollinearity unless they have been centred, i.e., converted to deviation scores so that variable has a mean of zero (Tabachnick & Fidell, 2001). Centring an independent variable does not affect its relationship with other variables, but it does affect regression coefficients for interactions included in the regression equation.

Two-step multiple regression analysis is conducted when variables are in their continuous form (Aiken & West, 1991). In the first step, the predictor and moderator are entered into the regression equation, followed by their interaction in the second step. The interaction term is represented by the product of the two main effects. Also, in line with the recommendation of these authors the independent variable and the moderator are centred before testing for the significance of the interaction term. To centre a variable, scores are put into deviation score form by simply subtracting the sample mean from all individuals' scores on the variable, thus producing a revised sample mean of zero. Such transformations have no impact on the level of significance of the interaction terms.

T-tests are used to determine differences between the groups in the sample. Effect sizes (Cohen, 1988; Steyn, 1999) are used in addition to statistical significance to determine the significance of relationships. Effect sizes indicate whether obtained results are important (while statistical significance may often show results which are of little practical relevance). A cut-off point of 0,50 (medium effect) (Cohen, 1988) is set for the practical significance of differences between means.

1.4 DIVISION OF CHAPTERS

The chapters are presented as follows in this thesis:

Chapter 1 Introduction

Chapter 2 Burnout of academic staff in South African higher education institutions.

Chapter 3 Work engagement of academic staff in South African higher education institutions.

Chapter 4 Occupational stress of academic staff in South African higher education institutions.

Chapter 5 A model of work wellness for academic staff in South African higher education institutions.

Chapter 6 Conclusions, limitations and recommendations.

1.5 CHAPTER SUMMARY

Chapter 1 focuses on the problem statement, objectives and research method in this study.

Chapter 2 encompasses the construct equivalence of an adapted version of the Maslach Burnout Inventory – General Survey in South African higher education institutions.

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CHAPTER 2

ARTICLE 1

BURNOUT OF ACADEMIC STAFF IN SOUTH AFRICAN HIGHER EDUCATION INSTITUTIONS

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ABSTRACT

The objectives of this study were to assess the psychometric properties of an adapted version of the Maslach Burnout Inventory-General Survey (MBI-GS) for academic staff in South African higher education institutions and to investigate differences between the burnout levels of the different demographic groups. A cross-sectional survey design was used, with stratified random samples ($N = 595$) taken of academics in six South African universities. Exploratory factor analysis with target rotations resulted in a three-factor model of burnout, consisting of Exhaustion, Mental Distance and Professional Efficacy. The scales showed acceptable internal consistencies and construct equivalence for two language groups. Practically significant differences were found in the burnout levels of academics with regard to their age, marital status and working hours.

OPSOMMING

Die doelstellings van hierdie studie was om die psigometriese eienskappe van 'n aangepaste weergawe van die Maslach Uitbrandingsvraelys – Algemene Opname (MBI-GS) vir Suid-Afrikaanse akademici te meet en om ondersoek in te stel na verskille tussen die uitbrandingsvlakke van die verskillende demografiese groepe. 'n Dwarsdeursnee-opname-ontwerp is gebruik met gestratifiseerde ewekansige steekproewe ($N = 595$) geneem van akademici aan ses Suid-Afrikaanse hoëronderrysinstellings. Verkennende faktorontleding met teikenrotasies het geresulteer in 'n drie-faktormodel van uitbranding bestaande uit Uitputting, Mentale Afstand en Professionele Doeltreffendheid. Die skale het aanvaarbare interne konsekwentheid en konstrukekwivalensie vir twee taalgroepe getoon. Praktiese betekenisvolle verskille is gevind in die uitbrandingsvlakke van akademici ten opsigte van hul ouderdom, huwelikstatus en werksure.

People spend a significant proportion of their lives at work, not only to make a decent living, but also as a reflection of their identity, self-worth and social status. Given the fundamental importance of work in one's life, it is generally acknowledged that individuals should have a safe and healthy work environment (Tetrick & Quick, 2003). However, research has shown that such an idealistic state of work-life is far from obvious. In fact, with Occupational Health Psychology focusing almost exclusively on pathological issues such as "what can go wrong" and "why do people fall ill", the workplace itself has been labelled as a risk for individual well-being (Schaufeli & Bakker, 2003). Since many people in today's society are suffering from work-related mental health problems, it is not surprising that "popular" negative states, such as burnout, emerged to denote the abnormal in so-called "normal" people.

Burnout affects all professions, but tends to be more pervasive in human service occupations such as education. Despite this evident recognition, only few empirical studies have been articulated on burnout among academics in general (i.e., Blix, Cruise, Mitchell, & Blix, 1994; Byrne, 1991; Dillon & Tanner, 1995; Doyle & Hind, 1998; Jackson, Barnett, Stajich, & Murphy, 1993; Lackritz, 2004; Pretorius, 1994; Singh, Mishra, & Kim, 1998; Van Emmerik, 2002). Nevertheless, these studies provided overwhelming evidence that faculty burnout is escalating and consequently academic careers are becoming less attractive.

Since its "discovery" in the early 1970s, the term *burnout* has been used to denote a state of emotional, cognitive and physical exhaustion (Shirom, 2003). Applied within the academic context, faculty burnout is conceived as an emotional phenomenon associated with high achievement in the academic role (Talbot, 2000). Many educators enter the field eager to teach, and create, only to experience what so many other professional educators have encountered – the fire to teach dwindles to a mere spark. Presumably, high expectations lead people to work too hard and do too much, thus leading to burnout when the high effort does not yield the expected results (Maslach, Schaufeli, & Leiter, 2001).

From the onset, it has been claimed that burnout not only is detrimental for the individual but likewise for the organisation. Accordingly, the high academic consequences of burnout are accompanied by declines in mental and physical health (Barkhuizen, Rothmann, & Tytherleigh, 2004), low morale (Johnson, 1993), drug and alcohol abuse (Watts et al., 1991) weakening of interpersonal relationships (Brown, Daniels, & Sanchez, 1996), deterioration in teaching and research performance (Dick, 1992; Singh et al., 1998), increased absenteeism

and ultimately considerations of leaving the profession (Blix et al., 1994; Seiler & Pearson, 1985). More seriously, faculty burnout also seems to assume a contagious nature which can potentially incapacitate an institution as it spreads through faculty, administrators and students. According to Maslach and Leiter (1995), the 'burned out' teacher might have a negative effect on students' well-being and performance. Ironically, it is generally believed that students, staff and administrators are likely to contribute towards the academic developing burnout (Blix et al., 1994). Taken together, the social costs of work pathology are quite high in a setting where faculty mood and expectations might alter the lives of students and colleagues.

Given the significance of burnout for the individual, it is necessary to have a standardised instrument to measure burnout. Undoubtedly, the most popular instrument is the Maslach Burnout Inventory (MBI), of which three versions exist: the Human Services Survey (HSS), the Educators Survey (ES) and the General Survey (GS) (Maslach & Jackson, 1981; Maslach, Jackson, & Leiter, 1996). The model underlying the MBI holds that burnout is a multidimensional syndrome that consists of the following conceptually distinct, but empirically related concepts: (emotional) exhaustion, cynicism (or depersonalisation), and professional efficacy (or personal accomplishment). In its strongest form, the model maintains that the entire component parts of the syndrome are necessary and relevant for defining burnout (Leiter, 1988).

In sum, it is clear that faculty burnout is a phenomenon of growing proportions and therefore warrants further understanding in the hope of developing prevention strategies to keep academics content with their chosen endeavours and profession. The objectives of this study were to assess the construct equivalence and internal consistency of an adapted version of the Maslach Burnout Inventory-General Survey (MBI-GS) for academics among different language groups, and to investigate the differences between the burnout levels of different demographic groups.

The measurement of burnout

Soon after its introduction in the early 1980s (Maslach & Jackson, 1981), the Maslach Burnout Inventory (MBI) became the almost universally accepted 'gold standard' for assessing burnout. As a result, the two original versions of the MBI, namely the MBI-HSS

and MBI-ES, have both driven and conditioned most of the theoretical and empirical work done in the field of burnout (Schaufeli, 2003; Yadama & Drake, 1995). Furthermore, this popular psychological phenomenon is defined by the test authors as "... a syndrome of emotional exhaustion, depersonalisation and reduced personal accomplishment that can occur among individuals who do people work of some kind" (Maslach & Jackson, 1986, p. 1). Essentially, burnout as measured with the original MBI, is reflected by a combination of high scores on emotional exhaustion (feelings of being over-extended, and drained from one's resources), depersonalisation (negative, cynical, detached and impersonal attitudes particularly towards other people) and low scores on personal accomplishment (growing devaluation of self-competence and overall achievement in the job).

Unfortunately, earlier studies with the MBI encountered problems with the reproducibility of its factor structure (Fimian & Blanton, 1987), and the limited internal consistency of the depersonalisation sub-scale (Schaufeli, Enzmann, & Girault, 1993). Moreover, several authors have challenged the prevailing view that the MBI should be used exclusively in those occupational contexts for which it has been designed for - human service and education (Maslach & Schaufeli, 1993). Accordingly, the three original burnout dimensions were redefined, and an alternative version of the MBI, namely the MBI-General Survey (MBI-GS), was developed which can also be used outside the human services (Schaufeli, Leiter, Maslach, & Jackson, 1996). This means that exhaustion, as operationalised by the MBI-GS encompasses severe fatigue irrespective of its cause; cynicism reflects an indifferent or distant attitude towards work instead of other people; and lack of professional efficacy incorporates both social and non-social aspects of occupational accomplishment.

Initial studies on the more recent version of the MBI yielded promising results. More specifically, confirmatory factor analysis showed that a three-factor model was clearly superior to alternative one-factor and two-factor models (Schutte, Toppinen, Kalimo, & Schaufeli, 2000; Taris, Schreurs, & Schaufeli, 1999; Leiter & Schaufeli, 1996). Also, applicable within the South African context, internal consistencies were satisfactory (i.e., Rothmann & Jansen van Vuuren, 2002; Rothmann & Malan, 2002) and a three-factor structure was generally confirmed (Storm & Rothmann, 2003). A consistently negative finding however, as evidenced by the aforementioned studies, was that one particular cynicism item (item 13, *I just want to do my job and not be bothered*) seemed to be unsound with the use of the MBI-GS. Therefore, in most cases, this item was deleted. One should,

however, keep in mind that cynicism is still a relatively new and emerging concept in Psychology and Organisational Behaviour and that the discriminant validity of this burnout component has yet to be established (Shirom, 2003).

Not only is it important to establish reliable and valid methods of measurement with regard to perceived burnout, it is also important to take into account the cultural diversity in a multicultural setting such as South Africa. The MBI in particular, has received a great deal of attention in literature with respect to its factorial stability in different countries and languages. A considerable amount of evidence exist to support the three-dimensional framework of the instrument, in English, across a wide range of occupations (i.e., Green, Walkey, & Taylor, 1991; Kalliath, O'Driscoll, Gillespie, & Bluedorn, 2000). This comes as no surprise, since burnout has drawn the attention of English-speaking countries from the onset of awareness of the phenomenon (Maslach et al., 2001).

An assessment of this type should be concerned with the issue of equivalency (Hwang, Yan, & Scherer, 1996). According to Ben-Porath, Almagor, Hoffman-Chemi and Tellegen (1995), assurance of measurement equivalency across different cultures is important for determining whether measures of a construct in one culture also exist in other cultures, to determine the degree of variability of the measures across several cultures, and to determine whether the measures are universal or culture-specific. Assessing measurement equivalence across countries and languages provides information about the factorial invariance of an instrument and therefore allows the researcher a degree of confidence in using the instrument in two or more cultural settings (Leung & Van de Vijver, 1996). Furthermore, the cross-cultural utility of the MBI has also been confirmed in South African studies with regard to differences between various race groups (Storm & Rothmann, 2003) and language groups (Jackson & Rothmann, 2004) respectively.

In recent years, the MBI-GS has also been extended for use in so-called helper professions. More specifically Barkhuizen et al. (2004) and Taris et al. (1999) found the MBI-GS a suitable and reliable burnout measure in a sample of university academic staff. However, when the MBI-GS is used on members of helping professions such as academics, the specific interpersonal characteristic of burnout (depersonalisation) is lost (Schaufeli, 2003). With academia traditionally being perceived as a very people-intensive occupation (i.e., interactions with students, staff, administrators), one obviously should consider whether it is

possible to get a clear picture of academic burnout when measured with the MBI-GS, but lacking the interpersonal dimension of depersonalisation.

This problem may be overcome by viewing depersonalisation as a special case of *mental distance*. That is, to the same extent depersonalised human services professionals exhibit a psychological distance towards the recipients of their services, cynical non-human services employees show a similar psychological distance regarding their work environment. In other words, the targets of the mental distance differ: in the case of human services professions it is the recipients, whereas in employees who work with things or with information, it is the job itself (Salanova, Llorens, García-Renedo, Burriel, Bresó, & Schaufeli, in press). Thus, in order to capture the individual's attitude towards both his/her students/colleagues (depersonalisation) and work (cynicism), Schaufeli (2003) suggests that the depersonalisation scale of the MBI-HSS/ES should be included in addition to the MBI-GS. However, a fundamental question arising from this development is whether cynicism and depersonalisation are actually distinct concepts of burnout or rather are both dimensions of mental distance.

In support of this argument, two contradictory studies exist regarding the distinctiveness of MBI-depersonalisation and MBI-cynicism. A recent study by Salanova et al. (in press), showed that one could discriminate empirically between cynicism and depersonalisation. Therefore one should not, for example, assume that depersonalisation is measured when the MBI-GS is used for the assessment of academic burnout. Results obtained from a South African study however, found quite the opposite (Jackson & Rothmann, 2004). According to these authors, burnout is not characterised by two separate cynical and depersonalisation dimensions. Instead, these two dimensions merged into one mental distance construct.

Burnout in different demographic groups

An emerging trend over the past decade has been the growing literature examining the interaction of key individual (i.e., gender, age, years of experience, marital status) and environmental factors (i.e., grade taught, type of students) in the burnout process. Although there was considerable speculation about gender differences regarding burnout, the empirical data do not support that conclusion (Maslach & Jackson, 1985). Part of the reason for the discrepancy between the perception and the reality is that the variable of gender is often

confounded with occupation and/or status. However, whereas traditional arguments yielded that burnout is more of a female experience, more recent research acknowledged that men are also susceptible to this phenomenon (Cooper, Dewe, & O'Driscoll, 2001).

Applied within the academic context, female academics often report higher levels of exhaustion than their male colleagues, whereas the latter are more depersonalised (Byrne, 1991; Jackson et al., 1993; Lackritz, 2004). In another study, Doyle and Hind (1998) also confirmed the higher incidence of depersonalisation among male academics, but failed to report any significant relationship with exhaustion. Furthermore, these authors together with Lackritz (2004), found no significant relationships regarding professional efficacy, whereas Byrne (1991) reported that female academics featured much lower on this burnout dimension than male academics. The argument for greater burnout among male academics, is therefore as compelling as it is for female academics.

Burnout is reported consistently by younger members of staff (Cordes & Dougherty, 1993), although more recently Schaufeli and Van Dierendonck (2000), found this phenomenon to be prevalent among older age groups as well. Younger academics in particular tend to experience higher levels of exhaustion than their older colleagues (Byrne, 1991; Dillon & Tanner, 1995; Jackson et al., 1993; Lackritz, 2004). Furthermore, age is also linked with work experience, so burnout appears to be more of a risk earlier in one's career. Blix et al. (1994) for example reported higher exhaustion and cynicism scores for less experienced academics, than for those with longevity of service. Moreover, both these dimensions are often associated with an intention to quit (Lee & Ashforth, 1990). Indeed, much has lately been said about academics as an ageing occupational group. As Maslach (1982) notes, workers who score lower on burnout may be older and wiser or a survivor population – those who were seriously burned out have already left the profession.

Academic qualification has also been found to be a significant contributor to burnout (Langemo, 1990). Although some researchers have associated burnout with higher levels of education (Maslach et al., 1996) others revealed that workers with a doctoral degree are less likely to report burnout than those with a master's degree (Smith-Stevenson & Saul, 1994). Notwithstanding, this is still quite remarkable since most stress-related problems seem more prevalent among workers with low status and poor education (Fletcher, 1988).

Some research showed that rank, as a potential status resource, is an active variable in predicting academic burnout (Byrne, 1991; Dillon & Tanner, 1995). Both studies found significant higher exhaustion scores for junior faculty than their senior colleagues. According to Hind, Dornbusch and Scott (1974), faculty in lower ranks are more often assigned heavily loaded teaching tasks and consequently spend less time doing research. Higher levels of burnout have previously been associated with faculty mainly involved in teaching (Dick, 1992; Jackson et al., 1993). However, being employed as a research assistant on an endless round of short-term contracts could also lead to strain (Doyle & Hind, 1998; Singh et al., 1998). More specifically, Singh et al. (1998) recently introduced the issue of research-related burnout. In this study, assistant professors who were burned out doing research reported lower ratings of job satisfaction, knowing that they might not become tenured. For tenured faculty, a perceived lack of rewards for research had a large effect on their burnout levels. Overall, non-tenured faculty seem to be more burned out than those tenured (Jackson et al., 1993).

Finally, several studies indicate that, on average, academic staff work considerably more hours than contracted. Interestingly, Jackson et al. (1993) found that faculty who work less than 40 and 40-50 hours have higher levels of burnout, especially exhaustion than those working more than 50 hours a week. Whether this would have an impact on the academic's personal life is debatable. In an early study by Peters and Mayfield (1982), half of the 200 faculty members interviewed complained of burnout and frustration due to heavy teaching loads, university expectations for research, and consequently insufficient time to spend with their families. On average, it appears that singles are at greater risk of burnout than to those living with a partner (Maslach & Jackson, 1985). Jackson et al. (1993) also confirmed this trend among academics. Thus, "when the workplace does not recognize the human side of work, then the risk of burnout grows" (Maslach & Leiter, 1997, p.18).

The above discussion leads to the following hypotheses:

H1: Burnout (as measured by the MBI-GS and depersonalisation scale of the MBI-ES) is a three-dimensional construct (cynicism and depersonalisation collapse into one mental distance construct and together with exhaustion and a lack of professional efficacy constitute the burnout syndrome). Acceptable internal consistencies and construct

equivalence exist for both Afrikaans- and English speaking academic staff members in South African Universities.

- H2: Female academics experience higher levels of burnout than male academics.
- H3: Younger academics experience higher levels of burnout than older academics.
- H4: Junior academics experience higher levels of burnout than senior academics.
- H5: Academics with lower level of qualifications experience higher levels of burnout than academics with post-graduate qualifications.
- H6: Single/Divorced academics experience higher levels of burnout than academics who are married/remarried.
- H7: Academics working longer hours in a typical week are more exhausted than academics working shorter hours in a typical week.

METHOD

Research design

A cross-sectional survey design was used to achieve the objectives of this research.

Participants

The participants were academic staff members from six South African universities. Two thousand questionnaires were sent to randomly selected participants. A total of 633 questionnaires were returned, with 595 found usable for data analysis. This represents a 28,33% response rate. Demographic breakdowns are given in Table 1.

Table 1

Characteristics of the Participants

Item	Category	Frequency	Percentage
University	Northwest-University	268	46,7
	University of Port Elizabeth	77	12,9
	University of the Orange Free State	86	14,5
	Rhodes University	38	6,4
	University of the Witwatersrand	45	7,6
	University of Cape Town	71	11,9
Job title	Junior lecturer	45	7,6
	Lecturer	176	29,6
	Senior lecturer	153	25,7
	Associate professor	75	12,6
	Full professor	117	19,7
Qualification	Grade 12 + 3 year Degree	17	2,9
	Grade 12 + 4 year Degree or Honours	67	11,3
	Grade 12 + 5 to 7 year Degree (i.e. medicine)	8	1,3
	Grade 12 + Masters Degree	200	33,6
	Grade 12 + Doctoral Degree	287	48,2
Focus	Research	47	8,1
	Lecturing	145	25,0
	Research and lecturing	388	66,9
Gender	Male	297	49,9
	Female	298	50,1
Marital status	Single/ widow/ widower	96	16,1
	Engaged/ in a relationship	50	8,4
	Married	402	67,6
	Divorced	36	6,1
	Separate	4	0,7
	Remarried	7	1,2
Age category	20-29 years	70	11,8
	30-39 years	157	26,4
	40-49 years	182	30,6
	50-59 years	140	23,5
	60-69 years	42	7,1
Language	Afrikaans	380	63,9
	English	207	34,8
Tenure	Permanent	513	86,2
	Temporary	35	5,9
	Fixed-term	44	7,4

According to Table 1, most participants were from North-West University (46,7%), with the average rank of lecturer (29,6%), in possession of a doctoral degree (48,2%) and focusing on both research and lecturing (66,9%). Females (50,1%) constituted one more participant than males, were married (67,6%) and between the ages of 40-49 years (30,6%). Most of the

respondents were Afrikaans speaking (63,9%), and generally career stable with 86,2% currently tenured at their institutions.

Procedure

The South Africa Universities Vice-Chancellors Association (SAUVCA) was asked for permission to conduct the study. The questionnaires were mailed to human resource officers at participating universities, from where they were distributed. A cover letter explained the purpose of the study, stated that participation was voluntary, and guaranteed confidentiality. Respondents were asked to return the completed questionnaires in a sealed envelope, either to the person who had distributed them or directly to the research team.

Measuring instrument

The Maslach Burnout Inventory – General Survey (MBI-GS) was used to measure the Exhaustion (5 items), Cynicism (5 items) and Professional Efficacy (6 items) dimensions of burnout. The Depersonalisation (5 items) dimension of the Maslach Burnout Inventory Educator Survey (MBI-ES) was also included in the questionnaire. On the scale the word 'recipients' (MBI-GS), found on the original scale was replaced by 'student' (MBI-ES). Responses, to 21 items, are made on a six-point scale varying from 0 (*never occurs*) to 6 (*occurs everyday*). High scores on Exhaustion and Cynicism/Depersonalisation, and low scores on Professional Efficacy are indicative of burnout. Internal consistencies (Cronbach coefficients alphas) for the MBI-GS reported by Maslach et al. (1996) varied from 0,87 to 0,89 for Exhaustion, 0,73 to 0,84 for Cynicism and 0,76 for Professional Efficacy. An internal consistency, 0,79 was reported for Depersonalisation as measured by the MBI-ES (Maslach & Jackson, 1986). Applied within the South African context, recent studies using the MBI-GS obtained Cronbach alphas of 0,88 to 0,89 (Exhaustion), 0,78 to 0,76 (Cynicism) and 0,79 to 0,85 (Professional Efficacy) in a sample of police workers (Storm & Rothmann, 2003) and social workers (Rothmann & Malan, 2002).

A biographical questionnaire was developed to gather information about the demographic characteristics of the participants. Information that was gathered included the following: city and university, gender, marital status, satisfaction with current relationship/marriage/single status, language, age, educational qualifications, job category, job title, main educational

focus, years in current institution, years in current job, chances of promotion, basis of employment, actual number of weekly working hours, number of working hours outside normal office hours in a work week, amount of time spent travelling to and from workplace and annual leave.

Statistical analysis

The statistical analysis was carried out with the SPSS Program (SPSS, 2003) and SAS Program (SAS Institute, 2000). The reliability and validity of the MBI were determined by means of Cronbach alpha coefficients, as well as exploratory factor analysis. Descriptive statistics (i.e., means, standard deviations, skewness and kurtosis) were used to analyse the data.

Construct equivalence of the MBI-GS was also performed. The basic idea behind the application of these techniques is to obtain a structure in each language group which can then be compared across all language groups involved. Factor analysis is the most frequently employed technique for studying construct equivalence. In the current study both exploratory and confirmatory models could have been used. Given that there is information about the composition of the instrument (based on previous studies), the choice of confirmatory factor analysis may seem obvious. However, the current authors used exploratory factor analysis for a pragmatic reason. Although a considerable amount of information exists on the factor structure of the MBI-GS, not many studies have addressed the psychometric properties of an adapted version of this measurement. In fact, only one study in South Africa could be found regarding its construct equivalence and internal consistency (Jackson & Rothmann, 2004). In line with many other studies, these authors found a poor overall fit with their data when using confirmatory models.

A principal components analysis was conducted to determine the number of factors of the MBI-GS in the total sample. Subsequently, a direct oblimin rotation was used to determine the solution for each language group. Factors obtained in each group were compared (after target rotation). The agreement was evaluated by a factor congruence coefficient, Tucker's phi (Van de Vijver & Leung, 1997). Values above 0,90 are taken to point essential agreement between cultural groups, while values above 0,95 point to very good agreement. A high

agreement implies that the factor loadings of the lower and higher levels are equal up to a multiplying constant.

Multivariate analysis of variance (MANOVA) was used to determine the significance of differences between the burnout (exhaustion, mental distance and professional efficacy) of demographic groups. MANOVA tests whether mean differences among groups on a combination of dependent variables are likely to have occurred by chance (Tabachnick & Fidell, 2001). In MANOVA a new dependent variable that maximises group differences is created from the set of dependent variables. One-way analysis is then performed on the newly created dependent variable. Wilk's lambda was used to test the significance of the effects. Wilk's lambda is a likelihood ratio statistic that tests the likelihood of data under the assumption of equal population mean vectors for all groups against the likelihood under the assumption that the population mean vectors are identical to those of the sample mean vectors for the different groups. When an effect was significant in MANOVA, one-way analysis of variance (ANOVA) was used to discover which dependent variables had been affected. Because multiple ANOVAs were used, Bonferroni type adjustment was made for inflated Type 1 error. Tukey tests were done to indicate which groups differed significantly when ANOVAs were done.

T-tests were done to assess the differences between the groups in the sample. Effect sizes (Cohen, 1988; Steyn, 1999) were used in addition to statistical significance to determine the significance of relationships. Effect sizes indicate whether obtained results are practically significant. A cut-off point of 0,50 (medium effect) (Cohen, 1988) was set for the practical significance of differences between means.

RESULTS

Because of the composition of the sample, it was decided to conduct the analysis in this study only on Afrikaans and English language groups and not on other African languages. Although the best strategy would have been to define cultural groups in terms of African languages as well, the sample sizes of these language groups were not large enough to satisfy the assumptions of the statistical techniques which were employed.

Firstly, a simple principal components analysis was conducted on the 21 items of the adapted MBI-GS version on the total sample of academic staff members. Analysis of the eigenvalues (larger than 1) and scree plot indicated that four factors could be extracted. However, because previous studies confirmed a three-factor solution and the obtained pattern matrices for a four-factor solution did not make sense, it was decided to specify three factors. One item however was complex and problematic. Not surprisingly, Item 13 – “I just want to do my job and not be bothered” loaded on the wrong factor. After deletion of this item, a principal component analysis with a direct oblimin rotation was carried out per language group. The pattern matrices for the Afrikaans and English speaking participants are reported in Table 2.

Table 2
Pattern Matrix of the 20-item MBI-GS for Afrikaans and English Language Groups

Item	Description	Afrikaans			English		
		Factor 1	Factor 2	Factor 3	Factor 1	Factor 2	Factor 3
MBI1	Emotionally drained from work	0,75	0,02	0,11	0,08	0,03	-0,79
MBI2	Feel used up at the end of the day	0,86	0,09	-0,05	0,03	0,14	-0,80
MBI3	Tired when getting up in the morning	0,74	-0,19	0,02	-0,13	-0,12	-0,88
MBI4	Working all day is a strain to me	0,69	-0,20	-0,06	-0,07	-0,01	-0,77
MBI5	Can effectively solve work problems	-0,19	0,62	0,11	-0,15	0,49	0,01
MBI6	Feel burned out from work	0,74	0,01	0,22	0,25	0,08	-0,76
MBI7	Make effective contribution to organisation	-0,01	0,69	-0,16	-0,13	0,69	-0,05
MBI8	Become less interested in work	0,29	0,00	0,56	0,66	-0,11	-0,05
MBI9	Less enthusiastic about work	0,41	-0,08	0,43	0,46	-0,21	-0,33
MBI10	Good at job	-0,03	0,79	0,14	-0,01	0,74	-0,16
MBI11	Exhilarated with work accomplishments	0,09	0,63	-0,16	0,12	0,81	0,03
MBI12	Accomplished many worthwhile things in job	0,08	0,74	-0,06	0,01	0,85	-0,02
MBI14	Cynical about work contributions	0,14	-0,16	0,55	0,43	-0,14	-0,24
MBI15	Doubt the significance of work	0,03	-0,33	0,55	0,36	-0,37	-0,17
MBI16	Effective in getting things done	-0,11	0,67	-0,04	0,11	0,82	0,10
MBI17	Treat learners as impersonal objects	-0,01	-0,05	0,62	0,60	0,03	-0,11
MBI18	Callous toward people	0,10	0,12	0,54	0,83	0,13	0,13
MBI19	Job is hardening me emotionally	-0,13	-0,02	0,77	0,86	0,11	0,06
MBI20	Don't really care what happens to learners	0,29	0,12	0,48	0,41	-0,06	0,01
MBI21	Blamed by learners for problems	-0,04	-0,07	0,53	0,58	-0,12	-0,07

The three factors were labeled as follows: a) Factor 1: Exhaustion, b) Factor 2: Professional Efficacy and c) Factor 3: Mental Distance (Depersonalisation/Cynicism). The pattern matrices of the three-factor solutions for Afrikaans and English participants were then used as input for an exploratory factor analysis with target rotations. Consequently, the following

Tucker's phi coefficients were obtained: a) Exhaustion = 0,94; b) Professional Efficacy = 0,97, and c) Mental Distance = 0,94. These coefficients compared favourably with the guideline of 0,90 and can therefore be regarded as acceptable. Overall, these results provided support for hypothesis 1 because cynicism and depersonalisation merged into one factor namely, mental distance. Furthermore, all three factors showed construct equivalence for the two language groups.

The descriptive statistics and alpha coefficients of the burnout dimensions are given in Table 3.

Table 3

Descriptive Statistics and Alpha Coefficients of the MBI

Item	Mean	SD	Skewness	Kurtosis	α
Exhaustion	14,27	7,16	0,06	-0,84	0,87
Mental Distance	14,81	9,81	0,60	-0,18	0,82
Professional Efficacy	28,31	5,32	-0,80	0,59	0,81

From the results in Table 3, it is evident that the scores on the three scales are normally distributed. Compared to the guidelines of $\alpha > 0,70$ (Nunnally & Bernstein, 1994), the Cronbach alpha coefficients of the sub-scales are considered to be acceptable. Overall, the internal consistency levels would seem to be acceptable. The results provide support for hypothesis 1, indicating that the measuring instrument shows high internal consistency.

Next, MANOVA and ANOVA analyses were done to assess the relationship between burnout and *demographic variables* such, such as age, marital status, level of education, job title, and hours work in a typical work week. These demographic variables were first analysed for statistical significance using Wilk's Lambda statistics. The results of these comparisons are reported in Table 4.

Table 4

MANOVAs – Differences in Burnout Levels of Demographic Groups

Variable	Value	F	Df	Den DF	p
Age category	0,96	2,12	12	1545,40	0,01*
Marital status	0,94	2,42	15	1520,40	0,00*
Qualifications	0,96	1,66	15	1615,30	0,05
Academic rank	0,96	1,75	12	1479,3	0,05
Working Hours	0,92	3,16	15	1579,4	0,00*

In an analysis of Wilk's Lambda values, statistically significant differences were found for age category, marital status and working hours in a typical week. No support was found for Hypothesis 4 and 5 namely that statistically significant differences exist between burnout of academics with different ranks and qualifications. The relationship between burnout and those demographic variables that showed statistically significant differences was further analysed using ANOVA, followed by Tukey HSD tests, where after the practical significance of differences were computed.

The ANOVAs of differences in burnout levels based on age categories are given in Table 5.

Table 5

Differences in Burnout Levels of Age Categories

Item	1	2	3	4	5	p	Root MSE
	20 – 29	30 – 39	40 – 49	50 – 59	60 – 69		
Exhaustion	15,13 ^b	14,38 ^b	15,18 ^b	13,70	10,36 ^a	0,00*	7,09
Mental Distance	15,79	15,13	15,43	14,52	10,64	0,05	9,78
Professional Efficacy	27,17 ^a	28,03	28,00	28,91	30,52 ^b	0,00*	5,28

* Statistically significant difference: $p < 0,01$

a Practically significant differences from type (in row) where b (medium effect, $d \geq 0,5$) or c (large effect, $d \geq 0,8$) are indicated

According to Table 5, Exhaustion and Professional Efficacy, showed practically significant differences ($p < 0,01$) in terms of the different age categories. Academics between the age of 60 and 69 years obtained a practically significant lower score (medium effect) on exhaustion than academics between the ages of 20–29 years, 30–39 years and 40–49 years. Academics between the age of 60 and 69 years also scored significantly higher on professional efficacy (practically significant, medium effect) than academics between the age of 20–29 years. No

practically significant differences were found regarding the Mental Distance of academics of different ages.

The above-mentioned results partially support Hypothesis 3.

The ANOVAs of the differences in burnout levels based on marital status are given in Table 6.

Table 6
Differences in Burnout Levels in Marital Status

Item	Single/ widow/ widower	Engaged/ in a relationship	Married	Divorced	Separate	Remarried	<i>p</i>	Root MSE
Exhaustion	15,04	16,54	13,60 ^b	17,31 ^a	12,00 ^b	11,71 ^b	0,00*	7,09
Mental Distance	15,71	13,42	14,51	19,14	9,00	11,14	0,04	9,75
Professional Efficacy	27,00	29,06	28,57	27,61	28,50	29,86	0,11	5,30

* Statistically significant difference: $p < 0,01$

a Practically significant differences from type (in row) where b (medium effect, $d \geq 0,5$) or c (large effect, $d \geq 0,8$) are indicated

According to Table 6 Exhaustion showed practically significant differences ($p < 0,01$) in terms of marital status. Divorced academics were significantly more exhausted (practically significant, in row) than academics married, remarried or separated. No practically significant differences were found regarding the Mental Distance and Professional Efficacy of academics with different marital statuses.

The above-mentioned results partially support Hypothesis 6.

The ANOVAs of differences in burnout levels based on working hours in a typical week are indicated in Table 7.

Table 7

Differences in Burnout Levels based on Working Hours in Typical Week

Item	1 Up to ten	2 11 – 20	3 21 – 30	4 31 – 40	5 41 – 50	6 51 or more	<i>p</i>	Root MSE
Exhaustion	10,50 ^b	9,00 ^c	14,17	12,36	14,29	15,70 ^a	0,00*	7,08
Mental Distance	15,00	13,80	14,75	14,41	14,92	14,96	0,97	9,88
Professional Efficacy	24,00	30,10	27,42	27,02	28,34	28,93	0,04	5,33

* Statistically significant difference: $p < 0,01$

a Practically significant differences from type (in row) where b (medium effect, $d \geq 0,5$) or c (large effect, $d \geq 0,8$) are indicated

Table 7 shows that academics who work 51 hours or more per week obtained statistically significantly ($p < 0,01$) higher scores on Exhaustion than those working 11–20 hours a week (practically significant, large effect) and less than ten hours a week (practically significant, medium effect) respectively. No practically significant differences were found regarding Mental Distance and Professional Efficacy of academics relating to work hours in a typical week.

The above-mentioned results support Hypothesis 7.

Finally, T-tests were carried out to determine whether differences exist between the levels of burnout experienced by male and female academics. No statistically significant differences were found between the burnout levels of male and female academics. Therefore, the results do not support Hypothesis 2.

DISCUSSION

The objectives of this study were to assess the psychometric properties of an adapted version of the Maslach Burnout Inventory-General Survey (MBI-GS) for academic staff in higher education institutions in South Africa, and to investigate differences between the burnout levels of the different demographic groups. Exploratory factor analysis with target rotations resulted in a three-factor model of burnout, consisting of Exhaustion, Mental Distance and Professional Efficacy. The scales showed acceptable internal consistencies and construct equivalence for two language groups. Practically significant differences in the burnout levels of academics were found with regard to their age, marital status and working hours.

Prior to testing the construct validity and internal consistency of the adapted version of the MBI-GS, simple factor analysis was conducted on the total 21-item questionnaire. Initially, four factors could be extracted, but based on the consistency of a three-factor structure as evidenced across various samples, groups and countries (Enzmann, Schaufeli, & Girault, 1994; Leiter & Schaufeli, 1996; Schaufeli & Enzmann, 1998), three factors were specified for principal component analysis. Results revealed a three-factor solution with one problematic item (Cynicism, Item 13), loading on the 'wrong factor'. After removal of item 13, simple factor analysis yielded a three-factor solution. The three factors were labeled as Exhaustion, Mental distance and Professional Efficacy respectively. After being used as input in exploratory factor analysis, these factors indicated that the adapted version of the MBI-GS is equivalent for Afrikaans and English language groups, and therefore the mean score of these groups can be compared to other analysis. Furthermore, reliability analysis confirmed sufficient internal consistency with the three subscales exceeding the critical Cronbach alpha value of 0,70.

In contrast to Salanova et al. (in press), these results supported the findings of Jackson and Rothmann (2004), confirming that burnout is not characterised by the two separate cynicism and depersonalisation dimensions – instead these two dimensions merged into one construct, namely mental distance. In this context thus, the specificity of burnout lies in a combination of low energy (exhaustion), poor identification (mental distance) and reduced professional efficacy (Schaufeli, 2003). Based on these results, it is clear that academics on the one hand, can have negative, distinct attitudes towards their students, colleagues and treat them as objects (depersonalisation) and on the other hand develop callous attitudes towards their work and to such extent that they might lose interest in research or don't prepare adequately for class (Seldin, 1987; Singh et al., 1998).

No statistically significant scores were obtained for gender, academic rank and qualifications. Other results indicated that significant burnout differences exist between age categories, marital status and working hours in a typical week. With respect to age, academics between the ages of 60 to 69 years experienced significantly lower levels of exhaustion compared to their colleagues between the ages of 20–29 years, 30–39 years and 40–49 years respectively. These results partially support earlier findings of Byrne (1991) and Jackson et al. (1993) suggesting that academics aged between 20 to 39 years are more likely to feel exhausted than

academics aged 50 years and older. According to Hind et al. (1974), younger academics are more likely to be involved in undergraduate teaching as opposed to rewarding tasks such as graduate teaching. As mentioned previously, both Byrne (1991) and Jackson et al. (1993) found that academics mainly involved in teaching, and particularly undergraduate teaching, are more likely to be exhausted.

The high exhaustion levels of academics aged between 40 to 49 years are caused by the fact that workers tend to shoulder more responsibilities and work overload as they mature (Osipow, Doty, & Spokane, 1985). In particular, Barkhuizen et al. (2004) found that job demands such as work overload predicted exhaustion among academic staff members. Also, given the changing nature of academic work, academics besides fulfilling traditional roles of teaching, research and service, are also expected to fulfil additional roles such as entrepreneurs, marketers and managers (Winter, Taylor, & Sarros, 2000). Moreover, much pressure is placed on academics to attract external funding through research grants or research consultancies. (Winefield, Stough, Dua, Gillespie, & Hapuararchi, 2002). These authors furthermore argue that academics may not possess the necessary skills that is required to fulfil these roles, which in turn might result in a mismatch between the worker's expectations of what the job involves and what it actually involves. Maslach and Leiter (1997) for instance suggest that burnout occurs when there is a misfit between the person self and work.

Results also showed that academics aged between 60 to 69 years experienced greater professional efficacy than academics aged between 20 to 29 years. One explanation for this finding is that older faculty members have already achieved their career goals of professorship and tenure through research activities, whereas the younger faculty have to struggle through the hurdles of rank, tenure and international recognition (Byrne, 1991). Furthermore, Byrne (1991) also found that the older faculty are more likely to be involved in graduate teaching as oppose to younger faculty members mainly involved with undergraduate teaching. Consequently, the smaller class sizes provide opportunity for important teacher/student dialogue which in turn lead to higher levels of professional efficacy. Taken together, younger academics in this sample experienced higher levels of burnout than their older colleagues. Thus, burnout is not necessarily a problem encountered at the end of a long career (Neidle, 1984).

Consistent with previous research (i.e., Buick & Thomas, 2001), divorced academics scored significantly higher on exhaustion than those who were married, remarried or separate. According to Cooper et al. (2001) those who are divorced are probably not only faced with a range of demands, but often lack social support, which might contribute to further exhaustion. For instance, three studies involving 1187 professionals who described their work, marriage and burnout, showed that people who were stressed at work but felt supported by their partner were able to cope with work situations that were otherwise intolerable (Pines, 1996). Furthermore, Leiter (1990) suggested that there are two distinct ways in which family resources can contribute to reduced exhaustion. Firstly, a family with access to resources for addressing its problems, is less likely to burden its members with emotional demands which may further aggravate occupational stress. Second, the family may perceive the experience of burnout in a member as a problem for which it will access its coping resources. The first explanation indicates that the family is simply not responsible for contributing to additional stresses; the second explanation indicates that it actively brings resources to alleviate on the problem of exhaustion. Clearly divorced employees are associated with less negative work-to-family spillover, but this also comes at the expense of less positive spillover from family to work (Grzywacz & Marks, 2000).

Academics working for more than 51 hours a week, were more exhausted than those working for less than 20 hours a week. As the demands of the job escalated, it appears that levels of support and other resources also declined. Many academics believe that they have no alternative but to work long hours, often during evenings and weekends (Kinman & Jones, 2003). According to Gillespie, Walsch, Winefield, Dua and Stough (2001), academics in particular reported feeling undervalued and underpaid considering the nature of the work performed and the hours worked. Moreover, research showed that intensive efforts and insufficient rewards are associated with burnout (Hasselhorn, Tackenberg, & Peter, 2004).

In conclusion, the utility of the MBI-GS, including the depersonalisation scale of the MBI-ES has been confirmed in a sample of academics. This enabled the researchers to capture the academic's attitude towards his/her job as well as towards the people with whom they interact (i.e., students and colleagues). Furthermore, a new three-factor structure and internal consistency of the burnout construct were confirmed.

This study had various limitations. First the reliance of this study was based solely on self-report measures. According to Schaufeli et al. (1993), the exclusive use of self-report measures in validation studies increases the likelihood that at least part of the shared variance between measures can be attributed to method variance. Secondly, another limitation is the sample of size, specifically the distribution of language groups and the sampling procedure followed in the present study, which have significant limitations in terms of the findings applied to the total population. Future studies could benefit in terms of a stratified random-sample design which would ensure sufficient representation of the different groups within the total academic population. Finally, in terms of the research design, future studies should focus on longitudinal designs where inferences regarding cause and effect could be made.

RECOMMENDATIONS

Based on the results obtained from this study, it is strongly recommended that the particular measuring instruments should be translated into the 11 official languages of South Africa. Especially Afrikaans speaking participants in traditionally Afrikaans universities were annoyed by the fact that the questionnaire was presented in English. Furthermore, future research should also focus on using both positively and negatively phrased items to measure burnout in academia. Recent research demonstrated that the psychometric value of the MBI-GS could be enhanced by including positively phrased items of the Disengagement Scale of the Oldenburg Burnout Inventory (Demerouti, Bakker, Vardakou, & Kantas, 2003).

Linking up with this, exploratory factor analysis could be used to test the construct equivalence of the new academic burnout conceptualization for different language groups in South Africa. In contrast with Byrne's (1991) remark that exploratory factor analysis may show some weaknesses, the present study obtained satisfactory results with using this factor analysis. Furthermore, the unique multicultural context of South African society provides excellent opportunities for testing the cross-cultural utility of the MBI. Therefore, it is strongly recommended that more future research should be directed toward exploring burnout among different race groups.

However, the scope of the MBI is perceived to be rather limited, and is recommended that it should be supplemented by a scale that assesses cognitive weariness. The question is whether psychological distress symptoms should also be included, although it can be argued, that

rather than constituting burnout, these are accompanying symptoms. Based on the results of the study and in line with the reasoning of Schaufeli (2003), it is recommended that the MBI-GS, including the Depersonalisation sub-scale of the MBI-ES, be used to assess burnout of academics. By doing so, the researcher can capture the academic's level of identification with both his/her recipients of service i.e., students, staff colleagues (depersonalisation) and job (cynicism). However, in conjunction with previous studies (i.e., Schutte et al., 2000), it is recommended that cynicism item 13 is omitted when using the MBI-GS in samples with academics.

Finally, given the evidence that burnout is escalating among academics, with subsequent negative repercussions, it is strongly recommended that interventions should be planned to manage and/or prevent burnout of academics. As already mentioned, faculty burnout might have a spiral, contagious or insidious nature, affecting students, colleagues, organizations systems the like. So, the literature is quite clear about the need for vigilance in identifying this problem and the need to quickly reduce and eliminate it.

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CHAPTER 3

ARTICLE 2

WORK ENGAGEMENT OF ACADEMIC STAFF IN SOUTH AFRICAN HIGHER EDUCATION INSTITUTIONS

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ABSTRACT

The objectives of this study were to assess the psychometric properties of the Utrecht Work Engagement Scale (UWES) for academic staff of different language groups in South African higher education institutions and to investigate differences between work engagement of the different demographic groups. A cross-sectional survey design was used, with stratified random samples ($N = 595$) taken of academics in six South African higher education institutions. The UWES and a biographical questionnaire were administered. Exploratory factor analysis with target rotations resulted in a two-factor model of work engagement, consisting of Vigour/Dedication and Absorption. The scales showed acceptable construct equivalence for two language groups. One scale, namely Vigour/Dedication showed acceptable internal consistency. Practically significant differences were found between the work engagement of academics with different job levels and qualifications.

OPSOMMING

Die doelstellings van hierdie studie was om die psigometriese eienskappe van Utrechtse Werkbegeesteringskaal (UWES) vir akademië van verskillende taalgroepe in Suid-Afrikaanse hoëronderriginstellings te meet en om ondersoek in te stel na verskille tussen die werksbegeestering van verskillende demografiese groepe. 'n Dwarsdeursnee-opname-ontwerp is gebruik met gestratifiseerde ewekansige steekproewe ($N = 595$) geneem van akademië aan ses Suid-Afrikaanse hoëronderriginstellings. Die UWES en 'n biografiese vraelys is afgeneem. Verkennende faktorontleding met teikenrotasies het geresulteer in 'n tweefaktormodel van werkbegeestering, bestaande uit Energie/Toewyding en Absorpsie. Die skaal het aanvaarbare konstrukekwivalensie vir twee taalgroepe getoon. Een skaal, naamlik Energie/Toewyding het aanvaarbare interne konsekwentheid getoon. Praktiese betekenisvolle verskille is gevind tussen die werkbegeestering van akademië met verskillende posvlakke en kwalifikasies.

For most of its history, psychology concerned itself with all the ails of the human mind: anxiety, depression, neurosis, obsessions, paranoia, delusions. The goal of practitioners was to bring patients from a negative ailing state to a neutral normal (Seligman, 1998). This author, however, recognised that it was not enough to merely nullify disabling conditions. Instead, the focus should be directed to upcoming fortigenic issues such as: "What are the enabling conditions that make human beings flourish?", "How do you get from zero to plus five?" and "What actively makes people fulfilled, engaged and meaningfully happy in their work?" – in short, "What can go right?" The result: a marked shift out of the dark realm of weaknesses and malfunctioning towards a more positive psychological approach, characterised by human strengths and optimal functioning (Seligman & Csikzentmihalyi, 2000).

Viewed from this positive perspective, it is not surprising that the concept of burnout has recently been supplemented to its positive antithesis – work engagement. Instead of looking exclusively at the negative pole, researchers have extended their interest to the positive pole of workers' well-being (Schaufeli, 2003). Work engagement in particular is a concept relevant for employee well-being and work behaviour for several reasons. First, work engagement is a positive experience in itself (Schaufeli, Salanova, Gonzalez-Roma, & Bakker, 2002). Second, it is related to good health and positive work affect, i.e., low levels of depression, distress and psychosomatic complaints (Demerouti, Bakker, Janssen, & Schaufeli, 2001; Rothbard, 2001). Third, work engagement helps individuals derive benefit from stressful work (Britt, Adler, & Bartone, 2001). Fourth, work engagement is positively related to job satisfaction, commitment and low turnover intention (Demerouti et al., 2001), and is expected to affect employee performance (Kahn, 1990). Taken together, work engagement might have positive repercussions for both individual well-being and organisational functioning.

Although Maslach and Leiter (1997) originally coined the term 'work engagement', Schaufeli and colleagues worked it out more fully (i.e., Schaufeli & Bakker, 2001, 2003; Schaufeli, et al., 2002). Consequently, these authors have taken different approaches in conceptualising work engagement, thereby representing two quite distinct schools of thought when it comes to the relationship between burnout and work engagement. Maslach and Leiter (1997), for example, define engagement as the opposite end of the three burnout dimensions – energy, involvement and sense of efficacy. Schaufeli et al. (2002), in contrast, conceptualise engagement in its own terms – rather than as an opposite to burnout – and so define it as a

persistent, positive motivational state of fulfilment in employees that is characterised by vigour, dedication and absorption. Thus, regardless of the definition used, the specificities of engagement lie in the combination of high energy (vigour), strong involvement (dedication) and efficacy.

However, motivating people to engage in their work remains a classic problem in organisations (Rothbard, 2001). As careers become more complex, people are increasingly faced with actively engaging in multiple roles to fulfil job expectations. Consequently, the attitudes, behaviours and emotions associated with one role may spill over to another (Edwards & Rothbard, 2000). Also, in the academic context, the emergence of a so-called 'knowledge economy' has changed the traditional role of the academic in a fundamental way (Blackmore, 2001). With the language of 'middle managers', 'customers' and 'products' displacing the language of 'professors', 'students' and 'courses', academics, besides teaching and research, are now expected to act as entrepreneurs, facilitators, marketers and managers (Winter, Taylor, & Sarros, 2000). Moreover, Fisher (1994) suggested that such a plethora of roles might easily result in role overload, a particular salient stressor for the modern academic.

Despite the widespread complaints about stressors and strains, most academics know that there are also times when they operate "in the zone" at work. Time is suspended, there is an intense task focus and pleasurable emotions, accompanied by high levels of enthusiasm. Whilst Doyle and Hind (1998), for example, found long working hours and high levels of burnout amongst a sample of university lecturers, 40% of the respondents found their work intrinsically motivating, enjoyable and potentially rewarding. Another study revealed that academics were very satisfied with their jobs – despite long working hours, work overload and a lack of support (Watts et al., 1991). So it seems that academics thrive on the fact that their work is stressful (Kinman & Jones, 2003). More recently, and although not unequivocal, a comparison between nine countries revealed that Finnish school teachers and academic teaching staff scored the highest on work engagement (Schaufeli & Bakker, 2003). Clearly, these results warrant a further investigation into the positive work experiences of academics.

The objectives of this study were to determine psychometric properties (construct validity and internal consistency) of the Utrecht Work Engagement Scale (UWES), to test its

construct equivalence for South African academics in different language groups, and to determine the differences between work engagement of the different demographic groups.

Work engagement

Many authors have for years taken the simplistic view that excess pressure will result in burnout, without accounting for the fact that, when exposed to the same conditions, some individuals 'burn out' whilst others do not. Instead, it seemed as if they found pleasure in working hard, and saw themselves as able to deal completely with the demands of their jobs (Leiter & Harvie, 1998). Obviously, in the past such individuals have commonly been labelled as 'workaholics' (Schaufeli & Bakker, 2001). However, whereas workaholics were exposed to deteriorations in mental health and social contacts outside work, others maintained a healthy mental and social state (Schaufeli & Bakker, 2003). Thus, given the fact that these individuals clearly behaved towards the opposite of burnout, the question arises whether it is possible that individuals who show energy, dedication and absorption in their work are in fact 'engaged' in their work.

According to Maslach and Leiter (1997), it is obvious that these individuals are work engaged. This is derived from the argument that the opposite scoring pattern of the three dimensions of burnout, as measured by the Maslach Burnout Inventory (MBI: Maslach, Jackson, & Leiter, 1996), implies work engagement. Or, put differently, if a worker is not 'burned out', he or she is engaged in his or her work. Furthermore, this notion underlines the basic approach followed by Maslach and Leiter (1997), namely that engagement and burnout constitute the opposite poles of a continuum of work-related well-being – with burnout representing the negative, non-productive pole, and engagement the positive, productive pole. Because these authors define burnout in terms of exhaustion, cynicism and reduced professional efficacy, it follows that engagement is characterised by energy, involvement and efficacy. Thus, the specificity of engagement in this context is determined by low scores on the exhaustion and cynicism scales and high scores on the professional efficacy scale of the MBI.

Schaufeli (2003), however, has taken a different approach to the concept of engagement. Even though engagement is still conceptualised as the positive antithesis of burnout, there is not the presumption that it is assessed by the opposite profiles the MBI scores, as claimed by

Maslach and Leiter (1997). More specifically, when an employee is not burned out, it does not necessarily mean that he or she is engaged in his or her work. Similarly, when an employee is low in engagement, this does not necessarily mean that he or she is burned out. Or, for instance, feeling emotionally drained from one's work 'once a week' does by no means exclude that in the same week one might feel bursting with energy. So, it is not plausible that burnout and engagement are perfectly negatively related, especially when using the same questionnaire to measure both constructs.

Schaufeli and Bakker (2001) define burnout and work engagement as two distinct concepts that should be assessed independently. Although employees experience work engagement and burnout as being opposite states, of which the former has a positive quality and the latter a negative quality, both need to be considered principally independent of each other. This means, at least in theory, that an employee who is not burned out may score high or low on engagement, whereas an engaged employee may score high or low on burnout. Furthermore, in contrast with Maslach and Leiter's (1997) approach, this approach enables the assessment of the strength of the association between work engagement and burnout, since different instruments assess both independently. It is possible to include both constructs simultaneously in one analysis – for instance to investigate whether burnout or engagement explains additional unique variance in a particular variable after the opposite variable has been controlled for. Clearly, work engagement can be distinguished, but not divorced, from burnout in terms of its structure and operationalisation.

The measurement of work engagement

Based on the work of Schaufeli and colleagues (Schaufeli & Bakker, 2001; Schaufeli, et al., 2002), engagement is operationalised with the Utrecht Work Engagement Scale (UWES), a self-report instrument that includes items such as: "I feel strong and vigorous in my job" (vigour); "I am enthusiastic about my job" (dedication); "I feel happy when I'm engrossed in my work" (absorption). In terms of this measuring instrument, work engagement is defined as a persistent, fulfilling, work-related state of mind that is not focused on any particular object, event, individual or behaviour. *Vigour* is characterised by high levels of energy and mental resilience while working, the willingness to invest effort in one's work and the persistence even in the face of difficulties. *Dedication* is characterised by a sense of significance, enthusiasm, inspiration, pride and challenge. Finally, *absorption* is characterised by being

totally and happily immersed in one's work, to the extent that it is difficult to detach oneself from it.

Both theoretically and practically, the UWES seems very promising. Recent studies, using confirmatory factor analysis, confirmed the hypothesised three-factor solution (i.e., Schaufeli et al., 2002) as superior to a one-factor model (Maslach, Schaufeli, & Leiter, 2001; Sonnentag, 2003). Some other studies also yielded satisfactory internal consistent results for the three scales of the UWES. For example, in samples of university students ($N = 314$) and employees ($N = 619$), adequate Cronbach alphas were found as follows: Vigour (6 items), $\alpha = 0,78$ and $0,79$; Dedication (5 items), $\alpha = 0,84$ and $0,89$ and Absorption (6 items) $\alpha = 0,73$ and $0,72$.

Applied within the South African context, most studies confirmed a three-factor solution (i.e., Storm & Rothmann, 2003; Jackson & Rothmann, in press) for the UWES, while one study obtained a two-factor structure (Naudé & Rothmann, 2004). Furthermore, internal consistencies seems promising – at least for the vigour and dedication scales. Compared to European countries, South African studies indicated much lower scores on the absorption subscale, and to such an extent that it was not considered useful in an analysis with demographic variables (i.e., Jackson & Rothmann, in press). These authors found an alpha value of $0,57$ in a study of teachers, while Naudé and Rothmann (2004) obtained an alpha score of $0,61$. Storm and Rothmann's (2003) results, however, were more promising with $\alpha = 0,78$ for absorption.

Given the fact that the UWES is still a relatively new instrument (it was only introduced in 1999), a truly cross-cultural perspective on work engagement is virtually lacking. However, in a multicultural context such as South Africa it cannot be taken for granted that scores obtained in one culture can be compared across cultural groups. Therefore, when an engagement measure is applied to different cultural groups, issues of equivalence become important (Van de Vijver & Leung, 1997). These authors also suggested that in particular construct equivalence of the measuring instruments should be tested before comparing scores across cultural groups and thus reported in each study that takes place in a multicultural context. Construct equivalence (also known as structural equivalence) indicates the extent to which the same construct is measured across the cultural groups under study – in other words

the comparison of cultural groups, as their scores are related to the same construct. Thus, without a test of equivalence it is impossible to know to what extent scores or constructs underlying the instrument can be used across cultures.

So far, results obtained from South African studies indicated that the cross-cultural utility of the UWES is encouraging. While Storm and Rothmann (2003), for example, confirmed the structural equivalence of the UWES for race groups, Jackson and Rothmann (in press) more recently found that the UWES showed construct equivalence for various South African language groups. Internationally, the factor structure of a slightly adapted student version of the UWES was largely invariant across samples from Spain, the Netherlands and Portugal (Schaufeli et al., 2002). Cronbach alphas ranged from 0,65 to 0,79 for Vigour (5 items); 0,77 to 0,85 for Dedication (5 items); and 0,65 and 0,73 for Absorption (4 items).

Work engagement and background variables

Given the significance of work engagement for both the individual and organisation, some researchers have explored the influence of certain background variables on the process of work engagement (i.e., Rothbard, 2001; Schaufeli & Bakker, 2003; Sonnentag, 2003). Particularly the variables of age and gender have frequently been linked with work engagement. The broad picture to emerge is that older employees seem to be more engaged in their work. Similarly, in a study with university students, higher levels of engagement were found among older students (Schaufeli et al., 2002). In view of the fact that burnout (the opposite of work engagement) occurs more frequently among younger individuals (see Byrne, 1991), it seems likely that older employees might feel more engaged in their jobs.

Regarding gender, men seems to be more engaged in their jobs than women (see Schaufeli & Bakker, 2003). These authors indicated that men scored significantly higher than women on all three aspects of engagement: vigour, dedication and absorption. However, these differences were relatively small and therefore lacked practical significance.

According to Schaufeli and Bakker (2001), research on burnout showed that some individuals, regardless of high job demands and long working hours, were not burned out. Instead, it seemed that they found pleasure in working hard and dealing with job demands. From a positive psychology perspective, such individuals could be described as engaged in

their work. Finally, a recent South African study by Jackson and Rothmann (in press) showed statistically significant differences between the work engagement of teachers based on qualification.

The above discussion leads to the following hypotheses:

- H1: Work engagement, as measured by the Utrecht Work Engagement Scale (UWES), is acceptable for Afrikaans- and English-speaking academics at South African universities and shows internal consistency.
- H2: Older academics are more engaged in their work than younger academics.
- H3: Male academics are more work engaged than females.
- H4: Professors are more work engaged than junior lecturers.
- H5: Academics with post-graduate qualifications are more work engaged than academics with lower levels of qualifications.

METHOD

Research design

A cross-sectional survey design was used to reach the objectives of this research.

Participants

The questionnaires were mailed to 2000 academic staff members at six South African universities. A total of 633 questionnaires were returned, with 595 found usable for data analysis. This represents a 28,33% response rate.

Most of the participants were from the North-West University (46,7%). Academic rank consisted primarily of lecturers (29,6%), with the principal degree held a doctorate (46,7%). Females constituted most of the participants (50,1%), were married (67,6%) and between the ages of 40 and 49 years (30,6%). Participants were predominantly Afrikaans speaking (63,9%) and most had stable careers, with 86,2% currently tenured at their institutions.

Procedure

The South Africa Universities Vice-Chancellors Association (SAUVCA) was asked for permission to conduct the study. The questionnaires were mailed to human resource officers at participating universities, from where they were distributed. A cover letter explained the purpose of the study, stated that participation was voluntary, and guaranteed confidentiality. Respondents were asked to return the completed questionnaires in a sealed envelope, either to the person who had distributed them or directly to the research team.

Measuring instrument

The *Utrecht Work Engagement Scale (UWES)* (Schaufeli et al., 2002) was used to measure the levels of engagement. Four items in which the language was simplified were added to the 17-item UWES. Three dimensions of engagement can be distinguished, namely Vigour (6 items; i.e., "I am bursting with energy in my work"), Dedication (5 items; i.e., "I find my work full of meaning and purpose") and Absorption (6 items; i.e., "When I am working, I forget everything else around me"). Engaged individuals are characterised by high levels of Vigour and Dedication and also elevated levels of Absorption. In terms of internal consistency, reliability coefficients for the three subscales have been determined between 0,68 and 0,91. In a South African sample of police officers, Storm and Rothmann (2003) obtained the following alpha coefficients for the two subscales: Vigour: 0,78; Dedication: 0,89 and Absorption: 0,78. Other South African studies obtained Cronbach alpha coefficients varying from 0,70 for Vigour and 0,81 for Dedication to 0,87 (Vigour/Dedication) and 0,57 to 0,61 for Absorption (Jackson & Rothmann, in press; Naudé & Rothmann, 2004). In light of the fact that most items on the UWES are framed in a positive manner, it was decided to include and mix the items of an adapted version of the MBI-GS (including the Depersonalisation scale of the MBI-ES) in one questionnaire. The latter is predominantly phrased in a negative manner and should guard against the possibility of response sets.

A biographical questionnaire was developed to gather information about the demographic characteristics of the participants. Information that was gathered included the following: city and university, gender, marital status, language, age, educational qualifications, job category, job title, years in current institution, basis of employment, working hours, total number of

weekly working hours, amount of time spent travelling to and from workplace, annual leave and considerations to quit the job.

Statistical analysis

The statistical analysis was carried out with the SPSS Program (SPSS, 2003) and SAS Program (SAS Institute, 2000). The reliability and validity of the UWES were determined by means of Cronbach alpha coefficients, as well as exploratory factor analysis. Descriptive statistics (i.e., means, standard deviations, skewness and kurtosis) were used to analyse the data.

Construct equivalence of the UWES was also performed. Construct equivalence can be investigated with several techniques, such as factor analysis, cluster analysis, and multidimensional scaling or other dimensionality-reducing techniques (Van de Vijver & Leung, 1997). The basic idea behind the application of these techniques is to obtain a structure in each culture which can then be compared across all cultures involved. Factor analysis is the most frequently employed technique for studying construct equivalence. In the current study both exploratory and confirmatory models could have been used. Given that there is information about the composition of the instrument (on the basis of previous studies), the choice for confirmatory factor analysis may seem obvious. However, the current authors used exploratory factor analysis for a pragmatic reason. The UWES is a recently developed measuring instrument, and only a few other studies regarding its validity in South Africa could be found (i.e., Coetzer & Rothmann, 2004; Naudé & Rothmann, 2004; Storm & Rothmann, 2003). Also, the authors had negative experiences with the use of confirmatory models in studying the construct validity of the UWES. The main problem in the application of confirmatory models is their fit to the data, which is almost always very bad. It is usually not clear whether the reasons for the poor fit are serious, and should lead to a reformulation of the model, or trivial, and do not challenge the underlying model.

Exploratory factor analysis was therefore used to examine construct equivalence. A principal components analysis was conducted to determine the number of factors of the UWES in the total sample. Subsequently, a direct oblimin rotation was used to determine the solution for each language group. Factors obtained in each group were compared (after target rotation). The agreement was evaluated by a factor congruence coefficient, Tucker's phi (Van de Vijver

& Leung, 1997). Values above 0,90 were taken to point to essential agreement between cultural groups, while values above 0,95 pointed to very good agreement. A high agreement implied that the factor loadings of the lower and higher level were equal up to a multiplying constant.

Multivariate analysis of variance (MANOVA) was used to determine the significance of differences between the burnout (exhaustion, mental distance and professional efficacy) of demographic groups. MANOVA tests whether mean differences among groups on a combination of dependent variables are likely to have occurred by chance (Tabachnick & Fidell, 2001). In MANOVA, a new dependent variable that maximises group differences was created from the set of dependent variables. One-way analysis of variance was then performed on the newly created dependent variable. Wilk's lambda was used to test the significance of the effects. Wilk's lambda is a likelihood ratio statistic that tests the likelihood of data under the assumption of equal population mean vectors for all groups against the likelihood under the assumption that the population mean vectors are identical to those of the sample mean vectors for the different groups. When an effect was significant in MANOVA, one-way analysis of variance (ANOVA) was used to discover which dependent variables had been affected. Because multiple ANOVAs were used, Bonferroni-type adjustment was made for inflated Type 1 error. Tukey tests were done to indicate which groups differed significantly when ANOVAs were done.

T-tests were done to determine the differences between the groups in the sample. Effect sizes (Cohen, 1988; Steyn, 1999) were used in addition to statistical significance to determine the significance of relationships. Effect sizes indicate whether obtained results are practically significant. A cut-off point of 0,50 (medium effect) (Cohen, 1988) was set for the practical significance of differences between means.

RESULTS

Because of the composition of the sample, it was decided to conduct the analysis in this study only on Afrikaans and English language groups and not on other African languages. Although the best strategy would have been to define cultural groups in terms of African languages as well, the sample sizes of these language groups were not large enough to satisfy the assumptions of the statistical techniques which were employed.

A simple principal component analysis was conducted on the 15 items of the UWES on the total sample of academic staff. Analysis of the eigenvalues (larger than 1) and scree plot indicated that two factors could be extracted. Next, principal components analysis with direct oblimin rotation was used in carrying out factor analysis per language group. The pattern matrices for Afrikaans and English-speaking participants are reported in Table 1.

Table 1

Pattern Matrix of the 15-item UWES for Afrikaans and English Language Groups

Item	Description	AFRIKAANS		ENGLISH	
		Factor 1	Factor 2	Factor 1	Factor 2
UWES1	I am bursting with energy in my work	0,65	0,30	0,77	0,05
UWES2	I find my work full of meaning and purpose	0,84	-0,09	0,78	0,01
UWES3	Time flies when I'm working	0,13	0,43	0,22	0,44
UWES4	I feel strong and vigorous in my job	0,78	0,01	0,84	-0,03
UWES5	I am enthusiastic about my job	0,89	-0,03	0,89	-0,07
UWES6	When I am working, I forget everything else around me	-0,24	0,85	-0,12	0,78
UWES7	My job inspires me	0,82	0,07	0,86	-0,08
UWES8	When I get up in the morning, I feel like going to work	0,83	-0,07	0,80	-0,04
UWES9	I feel happy when I am engrossed in my work	0,48	0,27	0,48	0,32
UWES10	I am proud of the work that I do	0,39	0,34	0,39	0,31
UWES11	I am immersed in my work	0,10	0,61	0,15	0,78
UWES12	In my job, I can continue working for very long periods of time	0,19	0,59	0,10	0,72
UWES13	To me, my work is challenging	0,58	0,21	0,29	0,42
UWES14	I get carried away by my work	0,08	0,69	-0,11	0,80
UWES15	I am very resilient, mentally, in my job	0,23	0,33	0,49	0,18

The pattern matrices of the two-factor solutions for Afrikaans and English groups were then used as input for an exploratory factor analysis with target rotation. The two-factor structure was compared across groups by rotating one solution to the other. After target rotation, the following Tucker's phi coefficients were obtained: a) Factor 1 = 0,95 and b) Factor 2 = 0,96.

Although the Tucker's phi coefficient indicated that both factors compared favourably with the guideline of 0,90, three items were complex and problematic. These items were: a) Item 9 – "I feel happy when I am engrossed in my work." b) Item 12 – "In my job, I can continue working for very long periods of at a time". c) Item 15 – "I am very resilient, mentally in my job". The above-mentioned three items either had significant cross-loading on more than one factor or loadings on a specific factor that did not make sense.

After removal of the three items, a simple factor analysis was conducted again. However, item 20 – "In my job I can comfortably deal with stressful situations and easily recover from such situations" was included first in order to obtain a more representative factor structure for the UWES. The scree plot and eigenvalues showed two factors which explained 54,45 per cent of the total variance. The pattern matrices for the Afrikaans and English language groups are reported in Table 2

Table 2

Pattern Matrix of the 13-item UWES for Afrikaans and English Language Groups

Item	Description	AFRIKAANS		ENGLISH	
		Factor 1	Factor 2	Factor 1	Factor 2
UWES1	I am bursting with energy in my work	0,64	0,06	0,79	0,09
UWES2	I find my work full of meaning and purpose	0,80	0,04	0,64	0,20
UWES3	Time flies when I'm working	0,10	0,53	0,14	0,52
UWES4	I feel strong and vigorous in my job	0,76	0,03	0,85	0,02
UWES5	I am enthusiastic about my job	0,86	0,01	0,81	0,07
UWES6	When I am working, I forget everything else around me	-0,17	0,85	-0,07	0,71
UWES7	My job inspires me	0,79	0,11	0,74	0,10
UWES8	When I get up in the morning, I feel like going to work	0,81	-0,05	0,76	0,03
UWES10	I am proud of the work that I do	0,47	0,25	0,33	0,37
UWES11	I am immersed in my work	0,25	0,46	0,11	0,81
UWES13	To me, my work is challenging	0,59	0,21	0,11	0,62
UWES14	I get carried away by my work	0,12	0,72	-0,11	0,78
UWES20	In my job I can comfortably deal with stressful situations and I easily recover from such situations	0,69	-0,14	0,82	-0,22

The two factors were labelled as follows: a) Factor 1: Vigour/Dedication, and b) Factor 2: Absorption. A target rotation was subsequently carried out on the two pattern matrices, which resulted in Tucker's phi coefficients of 0,97 for both (Vigour/Dedication) and Absorption. With these coefficients comparing favourably with the Tucker's phi of 0,90, the construct equivalence of the UWES for Afrikaans and English language groups are confirmed.

The descriptive statistics and alpha coefficients of the two factors of the UWES are given in Table 3.

Table 3

Descriptive Statistics and Alpha Coefficients of the UWES

Item	Mean	SD	Skewness	Kurtosis	α
Vigour/Dedication	39,33	9,38	-0,76	0,20	0,89
Absorption	17,62	4,24	-0,65	-0,10	0,68

The information in Table 3 indicates that the two factors are normally distributed. With regard to the internal consistency of the scales, Vigour/Dedication seems to demonstrate acceptable alphas above the 0,70 guideline provided by Nunnally and Bernstein (1994), whereas Absorption does not exceed this cut-off point.

Based on the above-mentioned findings, Hypotheses 1 is accepted.

Next, MANOVA and ANOVA analyses were done to assess the relationship between engagement and *demographic variables* such as age, job level, and qualifications. These demographic variables were first analysed for statistical significance using Wilk's Lambda statistics. The results of these comparisons are reflected in Table 4.

Table 4

MANOVAs – Differences in Burnout Levels of Demographic Groups

Variable	Value	F	df	Den DF	p
Age	0,97	2,03	8	1170	0,04
Job levels	0,96	3,16	8	1120	0,00*
Qualifications	0,94	3,55	10	1172	0,00*

* Statistically significant difference: $p < 0,01$

In an analysis of Wilk's Lambda values, statistically significant differences were found between the levels of work engagement of academics with different job levels and qualifications. No support was found for Hypotheses 2, namely that statistically significant differences exist between the work engagement of academics in different age groups. The relationship between engagement and those demographic variables that showed statistically significant differences was further analysed using ANOVA, followed by Tukey HSD tests, whereafter the practical significance of differences were computed.

The ANOVAs of differences in work engagement levels of academics on different job levels are reported in Table 5.

Table 5

Differences in Work Engagement of Academics on Different Job Levels

Item	Junior Lecturer	Lecturer	Senior Lecturer	Associate Professor	Professor	<i>p</i>	Root MSE
Vigour/Dedication	38,18	39,28	37,35	40,11	41,66	0,00*	9,30
Absorption	16,29 ^a	17,60	17,22	18,61	18,74 ^b	0,00*	4,16

* Statistically significant difference: $p < 0,01$

a Practically significant differences from type (in row) where b (medium effect, $d \geq 0,5$) or c (large effect, $d \geq 0,8$) are indicated

Table 5 shows that practically significant differences exist between the Absorption levels of academics, based on their job levels. Professors were more absorbed in their work (practically significant, medium effect) than junior lecturers. No practically significant differences were found between the Vigour/Dedication of academics on different job levels.

ANOVAs of differences in engagement levels based on qualifications are indicated in Table 6.

Table 6

Differences in Engagement Levels based on Qualifications

Item	1 M + 3 (Degree)	2 M + 4 (Honours Degree)	3 M + 5 to 7 (i.e. medicine)	4 Masters Degree	5 Doctoral Degree	<i>p</i>	Root MSE
Vigour/Dedication	42,11	37,82	41,88	38,96	39,61	0,49	9,38
Absorption	17,12	16,03 ^a	17,25	17,44	18,28 ^b	0,00*	4,17

* Statistically significant difference: $p < 0,01$

a Practically significant differences from type (in row) where b (medium effect, $d \geq 0,5$) or c (large effect, $d \geq 0,8$) are indicated

According to Table 6, practically significant differences exist between the Absorption levels of academics, based on their qualifications. Academics in possession of a doctoral degree were significantly more absorbed (practically significant, medium effect) in their work than

academics with a four year or Honours degree. No practically significant differences were found between the Vigour/Dedication of academics based on their qualifications.

The above-mentioned results support Hypothesis 4 and 5, namely that statistically significant differences exist between the engagement levels of academics, based on their job levels and qualifications.

Furthermore, T-tests were carried out to determine whether differences exist between the levels of vigour/dedication and absorption experienced by male and female academics. No statistically significant differences were found between the work engagement of male and female academics. Therefore, the results do not support Hypothesis 3.

DISCUSSION

The objectives of this study were to determine the psychometric properties of the Utrecht Work Engagement Scale (UWES) for academic staff of different language groups in South African higher education institutions, and to investigate differences between work engagement of the different demographic groups. The results showed acceptable construct equivalence for two language groups and acceptable internal consistency for the Vigour/Dedication subscale. Practically significant differences were found between the work engagement of academics on different job levels and with different qualifications.

Firstly, the construct equivalence of the UWES was assessed for different academic language groups. Two factors were extracted using exploratory factor analysis, namely Vigour/Dedication and Absorption. Although exploratory factor analysis with target rotations showed that the construct equivalence of the scales was acceptable, inspection of the factor loadings yielded three problematic items (9, 12 and 15). Item 9 ("I feel happy when I am engrossed in my work") is loaded on different factors for Afrikaans- and English-language groups. It is possible that the participants did not understand the word "engrossed". Item 12 ("In my job, I can continue working for very long periods of time") was supposed to measure Vigour, but loaded on Absorption. However, when closely reviewing this item, it might as well pass for an Absorption item. Absorption as such indicates a difficulty of the individual to distance him/herself from the job and this item ambiguously seems to imply the same. Item

15 ("I am very resilient, mentally in my job") loaded on different factors for both language groups. The word "resilient" might have been misunderstood.

Based upon both conceptual and empirical grounds, item 9, 12 and 15 were deleted from the original 15-item theoretical model of engagement (as measured by the UWES). In order to obtain a more representative factor structure, item 20 ("In my job I can comfortably deal with stressful situations and I easily recover from such situations") was added. Target rotation on the 13-item UWES resulted in acceptable Tucker's phi coefficients, which indicate acceptable construct equivalence of the two factors for Afrikaans and English speaking academics. It is noteworthy that previous South African studies also found problematic loadings on item 9 (Naudé & Rothmann, 2004) and item 12 (Jackson & Rothmann, in press).

In line with the findings of Naudé and Rothmann (2004), results in this study also pointed to a two-factor structure characterised by Vigour/Dedication and Absorption. This is in contrast with previous findings suggesting the superiority of a three-factor structure for work engagement (i.e., Schaufeli & Bakker, 2003). Although the internal consistency of Absorption did not exceed the cut-off point of 0,70, it was considered acceptable for use in further analysis with demographic groups. However, the question remains whether absorption plays a less central role in the work engagement concept than vigour and dedication.

The results indicated that no differences existed regarding engagement levels of academics on age categories and gender. However, statistically significant differences were found among academics with regard to their job levels and qualifications. Further analysis of the data revealed that practically significant differences exist between the subscales of the UWES and these variables.

Demographically speaking, Professors were significantly more absorbed in their work than junior lecturers. Winter et al. (2002) found that motivating core activities such as task identity, autonomy, skill variety and job challenge satisfied professors need for engaging in meaningful work activities. Moreover, Gilbert (2001) suggested that a worker's motivation by the job, organisation, or work in general and in particular job autonomy, might predict an individual's level of absorption in their work. Another line of research argue that the higher levels of autonomy professors experience in relation to their colleagues in lower ranks, are also reflected in their tendency to be more committed to their institutions (Winefield,

Gillespie, Stough, Dua, & Hapuararchi, 2002). In this context Gilbert (2001) suggested that within a given organisation, employees who have high organisational commitment, are more likely to make work a higher priority and are therefore more absorbed in their work.

Results also showed that academics in possession of a doctoral degree were more absorbed in their jobs than those with a four-year degree or honours. These results support the findings of Gilbert (2001), namely that highly educated workers tend to be more absorbed with their work. According to this author, it appears that among this class of "knowledge workers", work has become more psychologically central and coupled with a constant increase in working hours, individuals indeed find it difficult to detach themselves from the job.

In sum, the utility of the UWES has been confirmed in a sample of academics with specific reference to the construct equivalence for different language groups. However, this study is not without its limitations. One limitation is the sample of size, specifically the distribution of language groups and the sampling procedure in the present study, which has significant limitations in terms of the findings applied to the total population. Future studies could benefit in terms of a stratified random-sample design which would ensure sufficient representation of the different groups in the total academic population. Secondly, future studies should focus on longitudinal designs where inference in terms of cause and effect could be made.

RECOMMENDATIONS

Based on the results of this study, it is strongly recommended that some of the UWES items be re-formulated. Specific problems that were encountered with the items included that metaphors were used and that some English words might have been difficult to understand. In particular, Van de Vijver and Leung (1997) suggest that metaphors should be avoided in questionnaires. Given the 11 official languages in South Africa, English is a second language for most people and consequently the use of metaphors and uncommon words such as "resilience", "immersed" and "engrossed" in the items could have contributed to misunderstandings. Moreover, if the UWES is going to be used, items 9, 12 and 15 should be omitted from the questionnaire in a multicultural context or rewritten in a more acceptable South African language format, due to semantic problems.

It is strongly recommended that future research investigate the relationships between work engagement and demographic variables. Furthermore, to enhance the cross-cultural utility of the UWES, it is suggested that future studies should focus on bias and equivalence for the different languages as well as race groups characterising the South African population.

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CHAPTER 4

ARTICLE 3

OCCUPATIONAL STRESS OF ACADEMIC STAFF IN SOUTH AFRICAN HIGHER EDUCATION INSTITUTIONS

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ABSTRACT

The objectives of this study were to identify the indicators of occupational stress for academic staff in South African higher education institutions, to analyse the differences between the occupational stress of different demographic groups, and to investigate whether organisational commitment moderates the effects of occupational stress on ill-health. A cross-sectional survey design was used ($N = 595$). An Organisational Stress Screening Tool (ASSET) and a biographical questionnaire were administered. Compared to the normative data, academics reported higher levels of stress relating to pay and benefits, overload and work-life balance. Academics also reported higher levels of psychological ill-health, but experienced higher levels of commitment both from and towards their organisation. Organisational commitment did not moderate the effects of occupational stress on ill-health. Analysis of variance revealed differences between the levels of occupational stress and ill-health of demographic groups.

OPSOMMING

Die doelstellings van hierdie studie was om die aanwysers van beroepstres vir akademië in hoër opvoedkundige instansies in Suid-Afrika te identifiseer, om verskille tussen beroepstres van verskillende demografiese groepe te meet, en om te ondersoek of organisasieverbondenheid die effek van beroepstres op swak gesondheid matig. 'n Dwarsdeursnee-opnameontwerp ($N = 595$) is gebruik. 'n Organisasiestresgraderingsinstrument (ASSET) en 'n biografiese vraelys is afgeneem. Vergeleke met die normatiewe data, het akademië hoër vlakke van stres ten opsigte van 'n gebrek aan betaling en byvoordele, oerlading en werk-huis balans getoon. Akademië het ook hoër vlakke van psigologiese ongesteldheid gerapporteer, maar het hoër vlakke van verbondenheid beide van en tot die organisasie ervaar. Organisasieverbondenheid het nie die effek van beroepstres op swak gesondheid gematig nie. Variansieanalise het verskille in die vlakke van beroepstres en swak gesondheid van demografiese groepe aangetoon.

There is now overwhelming evidence attesting to what many academics have known for years: academia is a highly stressful occupation. In fact, academics throughout the world deal with a substantial amount of ongoing occupational stress (see Kinman, 2001, for a review). Ironically, university teaching has traditionally been conceived as a relatively stress-free occupation, or at least has been seen in this way by outsiders (Fisher, 1994). Although they are not highly paid in comparison to professionals in the commercial sector, academics have been envied for their tenure, light work loads, flexibility "perks" such as overseas trips for study and/or conference purposes and the freedom to pursue their own research (Gillespie, Walsch, Winefield, Dua, & Stough, 2001). However, with many of these attractions and advantages being eroded over the past two decades, it comes as no surprise that higher education institutions are now commonly labelled as "stress factories".

Concerns about academic stress have been articulated over the past three decades, dating back to the early 1970s. Despite this blossoming literature on work stress, the term *stress* is still enshrouded by a thick veil of confusion and divergence of opinion. As a result, stress has been variously defined as a response to challenging events (Selye, 1976), as an event that places demands on the individual (Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964), as an environmental characteristic which poses a threat to the individual (French, Kaplan, & Harrison, 1982), and as a realisation by the individual that he/she is unable to deal adequately with the demands placed upon him/her (Lazarus, 1991). These various definitions can perhaps be summarised as follows: the nature and effects of stress might be best understood as arising from the interpretation by the individual (cognitive interpretation) of certain some environmental variables (stressors) as stress-inducing.

Research conducted in the United Kingdom (UK), Unites States of America (USA), Australia and New Zealand has identified several key stressors commonly associated with stress among academic staff. These include work overload, time constraints, lack of promotion opportunities, inadequate recognition, inadequate salary, changing job role, inadequate management and/or participation in management, inadequate resources and funding and student interactions (Blix, Cruise, Mitchel, & Blix, 1994; Boyd & Wylie, 1994; Cross & Carroll, 1990; Daniels & Guppy, 1994; Doyle & Hind, 1998; Kinman, 1998). Other sources of stress, such as high self-expectations (Hind & Doyle, 1996), job insecurity (Tytherleigh, Webb, Cooper, & Ricketts, 2005), lack of community and poor interactions with colleagues (Abouserie, 1996), inequality in the system (Gillespie et al., 2001), concerns over

amalgamations (Sharpley, Reynolds, Acosta, & Dua, 1996) and lack of regular performance feedback (Boyd & Wiley, 1994) have been highlighted in a few studies.

Against a background of mounting research evidence, there can be little doubt that stress has a debilitating effect on both individual and organisational outcomes (Cooper & Cartwright, 1994). In the academic context, occupational stress has specifically been associated with job dissatisfaction, increased smoking, alcohol and drug abuse, physical ill-health (i.e., coronary heart disease) and poor psychological well-being (i.e., anxiety and depression) (Doyle & Hind, 1998; Watts et al., 1991; Winefield, Gillespie, Stough, Dua, & Hapuararchi, 2002). Furthermore, stress has been implicated as a causal factor of impaired work performance, decreases in faculty productivity, absenteeism, propensity to leave and higher staff turnover (Kinman, 2001; Taris, Schreurs, & Van Iersel-van Silfhout, 2001). Finally, occupational stress is also thought to have a spill-over effect, whereby stress becomes a major determinant of the overall quality of life, including family life (Doyle & Hind, 1998; Kinman & Jones, 2003).

Clearly, higher education institutions have to manage and protect their staff from increasing levels of stress in order to preserve staff well-being, organisational performance and the intellectual health of the nation. However, to achieve this, a greater understanding of the effects of stress on staff within the higher educational sector is needed. The objectives of this study were therefore to identify the indicators of occupational stress for academic staff in South African higher education institutions, to analyse differences between the occupational stress of different demographic groups, and to investigate whether organizational commitment moderates the effects of occupational stress on ill-health.

Occupational stressors, ill-health and commitment

Since the early work of Kahn et al. (1964), a great deal of attention has been devoted to understanding the stress-response in occupational settings. As a result, many different theories and models exist to explain the devastating effects of stress on the human being (see French et al., 1982; Karasek & Theorell, 1990). Based upon existing models of stress (i.e., Cooper and Marshall's (1976) Model of Stress at Work), Cartwright and Cooper (2002) recently developed the ASSET (An Organisational Stress Screening Tool) model to measure an employee's potential exposure to stress and to recognise additional factors such as job

satisfaction and organisational commitment, which serve to either exacerbate or moderate the stress levels experienced at work (see Figure 1).

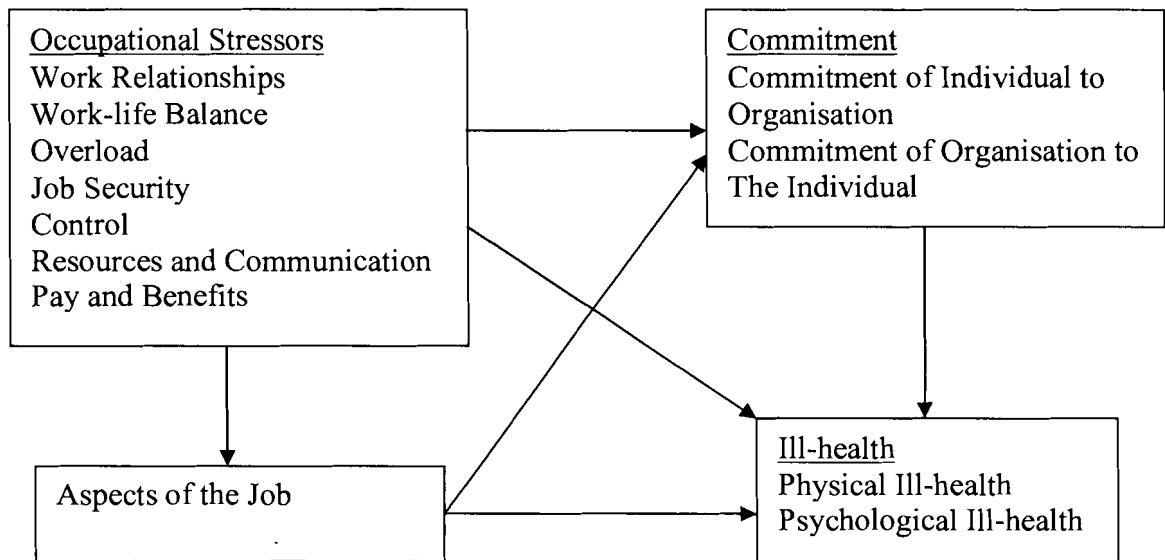


Figure 1. The ASSET model

According to this model, the sources of stress commonly reported in literature can be classified in terms of eight different stressor categories. These include work relationships (i.e., poor or unsupportive relationships with colleagues and/or superiors, isolation and unfair treatment), work-life imbalance (i.e., when work interferes with the personal and home life of individuals), overload (i.e., unmanageable workloads and time pressures), job security (i.e., fear of job loss or obsolescence), control (i.e., lack of influence in the way work is organised and performed), resources and communication (i.e., having the appropriate training, equipment and resources), pay and benefits (i.e., the financial rewards that work brings) and aspects of the job itself (i.e., sources of stress related to the fundamental nature of the job itself). Commitment (including the individual's commitment to the organisation and the organisation's commitment to the individual) refers to both a source and effect of stress. Poor health is an outcome of stress, and it can be used to ascertain if workplace pressures have positive and motivating or negative and damaging effects. However, poor health may not necessarily be indicative of workplace stress. Individuals may, for example, be unwell because they choose not to lead a healthy lifestyle or may be unaware of how to do so (Cartwright & Cooper, 2002).

Although some studies found high levels of stress relating to work relationships, control, resources and communication and job insecurity (see Tytherleigh, 2003; Tytherleigh et al., 2005), excessive overload and work-life imbalance are among the most frequently reported stressors by academics (Association of University Teachers, 2003). In fact, 80% of the academics in Boyd and Wylie's (1994) study indicated that their workloads had expanded significantly in recent years. Also, with this escalation in the demands of the job, it is not surprising that academic staff report difficulty in maintaining firm boundaries between the workplace and the home as, for many, it appears that the home is the extension of the workplace (Kinman, 1998). The majority of academics (67%) in Kinman and Jones's (2003) study agreed that work now encroached more on their home lives than in the recent past and 72% believed that their families suffered as a direct result of their jobs. More seriously, both work overload and work-life imbalance have been related to low psychological well-being among academics (Daniels & Guppy, 1994; Kinman & Jones, 2003; Winefield et al., 2002).

Generally speaking, psychological well-being amongst academics is relatively poor (see Kinman, 2001). Two-thirds of the respondents in Gillespie et al.'s (2001) study reported that stress impacted on them psychologically: they described experiencing feelings of anxiety, depression, burnout, anger, irritability and helplessness. Academic burnout in particular has been well documented (i.e., Blix et al., 1994; Doyle & Hind, 1998). Moreover, depression has been associated with suicidal thoughts and tendencies (Watts et al., 1991). In fact, an epidemiological study of suicide conducted by Kelly, Charlton, and Jenkins (1995) suggest that university academic staff are at around 50% greater risk than the average worker. Psychological stress, in turn, can lead to severe physical consequences. In a study by Winefield et al. (2002), the majority of the respondents reported experiencing tiredness 'sometimes' to 'nearly all the time', back and neck pains, sleeping difficulties, headaches, muscle pain, colds and virus infections. Furthermore, in the South African context, Coetzee and Rothmann (2005) recently found high levels of psychological and physical ill-health in a sample of 372 university staff members.

Results and conclusions regarding commitment among academics remain confusing and confounding. There is some evidence to suggest that, on average, academic staff appear to be committed to their organisations while experiencing stressors and strains (McInnis, 1999; Winefield et al., 2002). However, in the latter study, the strongest predictor of staff commitment to the university was trust in senior management. Similarly, Meyer and Allen

(1997) also suggested that the organisation's support of academics explained their emotional commitment towards their universities. Interestingly, Coetzee and Rothmann (2005) found that while university staff members were committed to their institutions, they perceived a lack of commitment from their employer. In addition, Millward-Brown (1996) found that university and college lecturers reported lower levels of perceived commitment from their organisation when they were compared with 20 other occupational groups. Furthermore, Tytherleigh et al. (2005) found that all higher education staff reported significantly lower levels of commitment both from and towards their organisation. However, despite the low commitment levels, staff members still experience low levels of stress relating to home-work balance, overload, the job overall and physical ill-health.

Chui and Kosinski (1995) argued that organisational commitment, as an attitudinal variable, influences stress. Similarly, Sommer, Bae, and Luthans (1996) contended that organisational commitment is one of the important variables in the study of employee behaviour since it is inversely related to employee tardiness and absence. Chow (1990) furthermore found that highly committed employees are more productive and are willing to assume responsibility. Begley and Cazjka (1993) suggested that committed employees, because of their positive attitudes, are less distressed by occupational stressors and therefore they perceive less stress.

Recently, organisational commitment has been identified as a significant moderator of stress (Begley & Cazjka; Siu, 2002). Siu (2002) for example found that organisational commitment were not only related to most of the physical and psychological outcomes among workers, but also to the moderating effects on the stressor-health relationship. Jackson and Rothmann (2004) also found that commitment from the individual to the organisation moderated the effects of occupational stress on physical and psychological health of 1177 South African teachers. Organisational commitment thus interacts with sources of stress at work to determine its outcomes.

Occupational stress and background variables

Academics are not a homogeneous group of professionals. Therefore, it would be inappropriate to examine academic stress without taking all their professional and personal characteristics into account. With regard to gender, female academics experience there are very few differences, if any, between male and female academics regarding the amount of

occupational stress they experience and report. However, academics seem to differ significantly in terms of the work stressors they perceive. Research has shown that workload, inadequate salaries and a lack of public recognition were perceived as more significant sources of pressure by men than by women, whilst job insecurity, isolation from colleagues, a lack of institutional recognition of worth and work politics were more salient for women (Cross & Carroll, 1990; Dua, 1994). Since academia is still largely a male dominated occupation, female academics might experience more stressors and strains than their male counterparts due to a lack of role models, less socialisation from women from their own rank, gender stereotypes and increased role conflict as they endeavour to balance roles at work and at home (Blix et al., 1994; Richard & Krieshok, 1989). Both Kinman (1996) and Doyle and Hind (1998) found that women academics in general experienced a higher degree of conflict between work and home. High workload, coupled with greater responsibilities for duties related to work and family, mean that women have to work long hours. Long working hours are now recognised as posing a serious threat to health and well-being (Cooper, 1999; Sparks & Cooper, 1997).

Researchers have also noted the importance of age-based differences in faculty, and conventionally believe that stress universally declines with chronological age. Dua (1994) found that younger academic staff reported more stress as a result of work politics, working conditions and job significance than older staff. This is quite understandable since younger faculty are more often involved in undergraduate teaching as opposed to more rewarding tasks such as research (Gmelch, Wilke, & Lovrich, 1986). The latter, however, is a prerequisite for advancement up the faculty career ladder. Coupled with an economy that reduces the chances for success to a greater extent than at any other time during the past decades, academics are thus under greater pressure to increase their research output, if they are to be retained, employed or promoted on this basis (Kinman & Jones, 2003). Moreover, new academics also have to make sense of the organisational structures and values of their newly employing institution, learn the expectations for performance and advancement, and balance multiple and sometimes conflicting demands on their time (Sorcinelli, 1994). More seriously, Osipow, Doty, and Spokane (1985) found that younger academics are less likely to cope with occupational stressors, and therefore experience greater psychological and interpersonal strain than their older colleagues.

Older academics tend to have more responsibilities and often report increasing pressure and work overload (Dua, 1994; Winefield et al., 2002). In particular, Winter, Taylor, and Sarros (2000) found that both professors and associate professors reported significantly more role overload than associate lecturers did. Dua (1994) also reported that academics with postgraduate qualifications tend to have heavier workloads. Furthermore, Winefield et al. (2002) found that as occupational levels increased, so did working hours for associate professors and professors, who reported an average of 55–56 hours per week. However, Osipow et al. (1985) suggested that older academics use a variety of coping mechanisms and therefore report less perceived strain compared to younger academics.

METHOD

Research design

A cross-sectional survey design was used to achieve the study objectives (Shaughnessy & Zechmeister, 1997). The measuring instrument used in this study (An Organisational Stress Screening Tool – ASSET) is most often used within a cross-sectional design. It is practically useful for organisations and not scientifically problematic (Cartwright & Cooper, 2002).

Participants

From the 2000 academics surveyed only 28,33% responded. Reasons for such a response rate might be that academics experience extreme work pressure and/or a lack of time and are therefore disinclined to fill out a questionnaire of this sort. Another reason might be a function of the fact that questionnaires were presented in English only. Given that most of the intended participants are Afrikaans-speaking (63,9%), respondents could have encountered problems in understanding some English words, especially where metaphors are used. Demographically, most of the participants were from North-West University, with nearly a third of the sample lecturers (29,6%) and in possession of a doctoral degree (48,2%). Female participants constituted 50,1% of the sample, were married (49,9%) and between the ages of 40 and 49 years (30,6%). Most academics held a permanent appointment (86,2%), and worked between 41 and 50 hours (43,7%) in a typical work week.

Procedure

The South Africa Universities Vice-Chancellors Association (SAUVCA) was asked for permission to conduct the study. The questionnaires were mailed to human resource officers at participating universities, from where they were distributed. A cover letter explained the purpose of the study, stated that participation was voluntary, and guaranteed confidentiality. Respondents were asked to return the completed questionnaires in a sealed envelope, either to the person who had distributed them or directly to the research team.

Measuring instrument

An Organisational Stress Screening Tool (ASSET) was used in this study. The ASSET was developed by Cartwright and Cooper (2002) as an initial screening tool to help organisations assess the risk of occupational stress in their workforce. It measures potential exposure to stress in respect to a range of common workplace stressors. It also provides important information on current levels of physical health, psychological well-being and organisational commitment, and provides data to which the organisation can be compared. The ASSET comprises four main questionnaires: *Perceptions of your job*: 37 items scored from 1 (strongly disagree about being *troubled*) to 6 (strongly agree about being *troubled*); *Attitudes towards your organisation*: nine items scored from 1 (strongly disagree) to 6 (agree); *Your health*: 19 items on two subscales – physical health and psychological well-being – items scored from 1 (never experienced the ill-health symptom or change of behaviour over the last three months) to 4 (often experiences the ill-health symptom or change of behaviour over the past three months); *Supplementary information*: 24 customised items to obtain biographical and demographical information specific to the higher education institutions.

The ASSET has an established set of norms from a database of responses from 20 000 workers in public- and private-sector organisations in the United Kingdom. The ASSET presents scores in sten (standardised ten) format. A sten is a standardised score based on a scale of 1-10, with a mean of 5,5 and a standard deviation of 2. The sten system makes possible meaningful comparison to the norm group. Mean scores within the range defined by sten 4 to sten 7 are “average” (Cartwright & Cooper, 2002). Scores that fall further from the mean (either in the high or the low direction) are considered more extreme. About 16% score at the low end, and another 16% score at the high end.

Validity of the ASSET is still to be completed (Cartwright & Cooper, 2002). Reliability is based on the Guttman split-half coefficient. All but two factors returned coefficients in excess of 0,70 ranging from 0,60 to 0,91 (Cartwright & Cooper, 2002). Johnson and Cooper (2003) found that the Psychological Well-Being subscale has good convergent validity, with an existing measure of psychiatric disorders, the General Health Questionnaire (GHQ – 12; Goldberg & Williams, 1988). Tytherleigh (2003) used the ASSET as an outcome measure of job satisfaction in a nationwide study of occupational stress levels in 14 English higher education institutions. The Cronbach alphas for the five ASSET subscales vary from 0,64 – 0,94, which shows acceptable internal consistency.

A biographical questionnaire was developed to gather information about the demographic characteristics of the participants. Information that was gathered included the following: city and university, gender, marital status, satisfaction with current relationship/marriage/single status, language, age, educational qualifications, job category, job title, main educational focus, years in current institution, years in current job, chances of promotion, basis of employment, working hours, amount of time travelling to and from workplace and annual leave.

Statistical analysis

The statistical analysis was carried out with the aid of the SPSS program (SPSS, 2003) and SAS program (SAS Institute, 2000). The reliability and validity of the ASSET were determined by means of Cronbach alpha coefficients. Descriptive statistics (i.e., means, standard deviations, skewness and kurtosis) were used to analyse the data. A principal components analysis was conducted to determine the number of factors for *Perceptions of your job*, *Attitudes towards your organisation* and *Your health* questionnaires respectively in the total sample.

Multivariate analysis of variance (MANOVA) was used to determine the significance of differences between occupational stress (i.e., job demands; lack of resources), ill-health (physical and psychological) and organisational commitment of the demographic groups. MANOVA tests whether mean differences among groups on a combination of dependent variables are likely to have occurred by chance (Tabachnick, & Fidell, 2001). In MANOVA a new dependent variable, which maximizes group differences, is created from the set of

dependent variables. One-way analysis is then performed on the newly created dependent variable. Wilk's Lambda was used to test the significance of the effects. When an effect was significant in MANOVA, ANOVA was used to discover which dependent variables were affected. Because multiple ANOVAs were used, a Bonferroni type adjustment was made for inflated Type 1 error.

Standard multiple regression analysis was used to test whether the regression coefficient of one independent variable (i.e., stressful job demands) varies across the range of another independent variable (i.e., organisational commitment). If so, the one independent variable moderates the relationship between the other independent variable and the dependent variable. If interactions of independent variables are included in the prediction equation, they can cause problems of multicollinearity unless they have been centred, i.e., converted to deviation scores so that the variable has a mean of zero (Tabachnick & Fidell, 2001). Centring an independent variable does not affect its relationship with other variables, but it does affect regression coefficients for interactions included in the regression equation.

RESULTS

Descriptive statistics

The descriptive statistics and Cronbach's alphas of the ASSET dimensions and items are reported in Table 1. The sten scores reflect the mean scores of the participants compared to international norms ($N = 20\ 000$).

Table 1

Descriptive Statistics and Alpha Coefficients of the ASSET

Dimension	Sten	Mean	SD	Skewness	Kurtosis	α
1. Work Relationships	4	19,45	7,33	0,69	0,33	0,84
2. Work-Life Balance	7	12,50	4,38	-0,10	-0,83	0,72
3. Overload	7	12,03	4,43	0,21	-0,63	0,73
4. Job Security	2	10,29	3,84	0,64	0,25	0,60
5. Control	2	11,30	4,45	0,52	-0,14	0,81
6. Resources and Communication	2	11,03	4,06	0,36	-0,19	0,66
7. Job Characteristics	2	17,27	5,17	0,56	0,41	0,61
8. Pay and Benefits	9	3,99	1,62	-0,44	-1,07	0,83
9. Physical Ill-health	5	13,51	4,30	0,11	-0,71	0,79
10. Psychological Ill-health	10	24,28	7,45	0,05	-0,61	0,92
11. Commitment from Organisation	7	20,99	5,17	-0,76	0,29	0,83
12. Commitment from Individual	7	18,05	3,93	-1,13	1,53	0,80

Note: Low sten scores for dimensions 1-10 indicate low stress and/or ill-health. Low sten scores for dimensions 11 and 12 indicate low commitment.

Table 1 shows that the 12 dimensions of the ASSET are normally distributed in the sample, with low skewness and kurtosis. The Cronbach alpha coefficients, varying from 0,61 – 0,92, compare reasonably well with the guideline of 0,70, demonstrating that a large portion of variance is explained by the dimension (internal consistency of the dimensions) (Nunnally & Bernstein, 1994).

Pay and Benefits, Work-life Balance and Overload proved to be major sources of stress as reflected by sten scores of 7 and higher for these dimensions. Items such as "I work longer hours than I choose or want to" and "I work unsocial hours, i.e., weekends" contributed to the above-average sten of Work-Life balance. Overload was mainly predicted by items such as "I do not have enough time to do my job as well as I would like", "I am set unrealistic deadlines" and "I am given unmanageable workloads". This indicates that job demands per se are experienced as major sources of stress for academics in higher education institutions.

The sten scores of lower than 3 for Job Security, Control, Resources and Communication and Job Characteristics indicated that these four dimensions are perceived as low sources of stress

among academics. In spite of the low score on Resources and Communication, academics seem to be stressed by the item "I am not adequately trained to do many aspects of my job". The other dimensions with sten scores of 4-6 indicated average sources of stress. In particular, regarding Work Relationships (sten of 4), items indicating "Other people at work are not pulling their weight" and "Others take credit for what I have achieved" were experienced as stressful by the participants. Also, despite an average sten of 5 for Physical Ill-health, academics seem troubled by sleep loss and muscular tension/aches and pains.

Psychological ill-health proved to be a major negative outcome of stress as indicated by the high sten score of 10. "Avoiding contact with other people", "Constant irritability", "Feeling unable to cope", "Having difficulty in concentrating", "Constant tiredness", "Feeling or becoming angry with others too easily" were the main predictors of Psychological Ill-health. More positively, however, above average sten scores of 7 indicate that academics experienced high levels of commitment from and to the organisation.

Differences between demographic groups

The differences between various demographic groups of academics were analysed in terms of perceived stress and ill-health as reflected by the ASSET. However, given the fact that some of the perceived scales reflected relatively unacceptable internal consistencies (i.e., job security, resources and communication and job characteristics), the authors subsequently conducted a simple principal component analysis on the 37 items stressors to determine a more reliable factor structure for use in differentiating stress levels of the various demographic groups. The results showed that two factors explained 34,62% of the total variance. Next, a principal factor analysis with a direct oblimin rotation was conducted on the 37 items. The first factor (labelled *Organisational Resources*), included the following items: ideas and suggestions about job are not taken into account (loading = 0,77), not involved in decisions affecting my job (0,74), never told that I am doing a good job (0,72), do not receive the support from others (boss/colleagues) that I would like (0,72), boss is forever finding fault with what I do (0,71), not sure what my boss expects of me (0,71), have little or no influence over performance targets (0,68), physical working conditions are unpleasant (0,66), do not feel that I am informed about what is going on in this organisation (0,62), feel isolated at work – i.e., working on my own or lack of social support of others (0,60), job is insecure (0,55), do not enjoy job (0,54), others take credit for what I have achieved (0,53),

relationships with colleagues are poor (0,49), work is dull and repetitive (0,47), physical working conditions are unpleasant (0,41) and job skills may become redundant in the near future (0,40).

The second factor (labelled *Job demands*), included the following items: I work longer hours than I choose or want to (loading = 0,81), do not have enough time to do job as well as I would like (0,79), work interferes with home and personal life (0,75), am given unmanageable workloads (0,71), work unsocial hours i.e., weekends, shift work (0,71), am set unrealistic deadlines (0,58) and other people at work are not pulling their weight (0,41).

A simple principal component analysis that was carried out on the 18 items of the health subscales of the ASSET resulted in two factors, which explained 56,22% of the variance. Next, a principal component analysis with a direct Oblimin rotation was conducted on the 18 items. The two related factors ($r = 0,56$) that were extracted were labelled *Physical Ill-health* (six items) and *Psychological Ill-health* (10 items).

The MANOVAs of the relationship between occupational stressors and demographic groups, including qualifications and academic rank are presented in Table 2.

Table 2
MANOVAs of Occupational Stressors of Demographic Groups

Variable	Value	F	df	Error df	p	Partial eta squared
Qualifications	0,98	2,75	4	1148	0,03	0,00
Academic rank	0,94	4,69	8	1120	0,00*	0,03
Gender	0,99	2,57	2	592	0,77	0,00
Age	0,97	2,35	8	1170	0,02	0,02

Table 2 shows that academic rank impacted significantly on the combined dependent variable Occupational stressors ($F_{(8, 1120)} = 4,69, p < 0,01$; Wilk's Lambda = 0,94; partial eta squared = 0,03). However, this effect was small (3% of the variance explained). Analysis of each dependent variable, using a Bonferroni adjusted alpha level of 0,025, showed that academics differed in terms of the level of Job demands ($F_{(4, 565)} = 3,36, p < 0,01$, partial $\eta^2 = 0,02$). Associate professors experienced higher levels of job demands than junior lecturers and

lecturers. Results furthermore showed no gender and age differences in terms of occupational stress.

The differences between the ill-health of various demographic variables are reported in Table 3.

Table 3
MANOVAs of Ill-health of Demographic Groups

Variable	Value	<i>F</i>	<i>df</i>	Error <i>df</i>	<i>p</i>	Partial eta squared
Gender	0,96	12,82	2	592	0,000*	0,04
Age	0,96	3,39	8	1170	0,001*	0,02
Academic rank	0,97	1,96	8	1120	0,048	0,01

Table 3 shows that gender impacted significantly on the combined dependent variable Ill-health ($F_{(2, 592)} = 12,82, p < 0,01$; Wilk's Lambda = 0,96; partial eta squared = 0,04). However, this effect was moderate (4% of the variance explained). Analysis of each dependent variable, using a Bonferroni adjusted alpha level of 0,025, showed that academics differed in terms of the level of Physical Ill-health ($F_{(2, 594)} = 24,06, p < 0,01$, partial $\eta^2 = 0,04$). Female academics experienced more physical ill-health problems than male academics.

Table 3 shows that age impacted significantly on the combined dependent variable Ill-health ($F_{(8, 1170)} = 3,39, p < 0,01$; Wilk's Lambda = 0,98; partial eta squared = 0,02). However, this effect was moderate (2% of the variance explained). Analysis of each dependent variable, using a Bonferroni adjusted alpha level of 0,025, showed that academics differed in terms of the level of Physical Ill-health ($F_{(4, 590)} = 5,24, p < 0,01$, partial $\eta^2 = 0,04$) and Psychological Ill-health ($F_{(4, 590)} = 5,13, p < 0,01$, partial $\eta^2 = 0,03$). Academics aged 30 to 39 years experienced more physical ill-health problems than academics aged 60 to 69 years. Academics between the ages of 40 and 49 years experienced more psychological ill-health problems than academics aged between 60 and 69 years.

Results furthermore showed no significant differences in terms of ill-health for academics with different academic ranks.

Moderating effects of organisational commitment

Firstly, a simple principal component analysis that was carried out on the nine items of the Organisational Commitment subscale of the ASSET resulted in a two-factor solution, which explained 68,99% of the variance. However, two items ("If necessary, I am prepared to put myself out for this organisation i.e., working long and/or unsociable hours" and "If asked, I am prepared to take on more responsibility or tasks not in my job description") were problematic and loaded on the wrong factor. Subsequently, with these two items removed, the simple principal component analysis that was carried out on the remaining seven items resulted in a one-factor solution, which explained 63,84% of the total variance. This factor was labelled 'Organisational commitment'.

Multiple regression analyses were carried out to assess whether occupational stress predicts physical and psychological ill-health, and whether organisational commitment moderates the effects of occupational stress on ill-health. The results of multiple regression analyses with occupational stress (either because of job demands or because of a lack of resources) and organisational commitment as independent variables, and the interaction between these variables (to test for moderating effects), and physical health are reported in Table 4. (Note: All the independent variables were centred). In the first model, the effects of the independent variables were entered, while in the second model the interaction term was also entered.

Table 4

Regression Analysis – Occupational Stress, Organisational Commitment and Physical Ill-health

Independent variables: Stress: Job Demands, Organisational Commitment and Interaction term										
Model		Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	<i>p</i>	<i>F</i>	<i>R</i>	<i>R</i> ²	ΔR^2
		B	SE	Beta						
1	Summary						43,08*	0,36	0,13	-
	(Constant)	13,51	0,17		81,96	0,00				
	Stress: Job Demands	0,15	0,02	0,28	7,09	0,00				
	Organisational Commitment	-0,10	0,02	-0,16	-4,13	0,00				
2	Summary						28,68*	0,36	0,13	0,00
	(Constant)	13,52	0,17		79,90	0,00				
	Stress: Job Demands	0,15	0,02	0,28	7,04	0,00				
	Organisational Commitment	-0,10	0,02	-0,17	-4,10	0,00				
	Stress: Job Demands X Organisational Commitment	0,00	0,00	0,10	0,22	0,82				
Independent variables: Stress: Job Resources, Organisational Commitment and Interaction term										
Model		Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	<i>p</i>	<i>F</i>	<i>R</i>	<i>R</i> ²	ΔR^2
		B	SE	Beta						
1	Summary						28,14*	0,30	0,09	-
	(Constant)	10,21	0,72		14,11	0,00				
	Stress: Job Resources	0,12	0,03	0,21	4,69	0,00				
	Organisational Commitment	-0,08	0,03	-0,14	-3,12	0,00				
2	Summary						18,82*	0,30	0,09	0,00
	(Constant)	10,25	0,73		14,07	0,00				
	Stress: Job Resources	0,12	0,03	0,21	4,65	0,00				
	Organisational Commitment	-0,08	0,03	-0,14	-3,16	0,00				
	Stress: Job Resources X Organisational Commitment	0,00	0,00	0,02	0,50	0,62				

* $p < 0,01$

From Table 4, it is evident that stress because of job demands and organisational commitment explained 9% of the variance in physical ill-health. Furthermore, stress because of a lack of job resources and organisational commitment explained 30% of the variance in physical ill-health. However, adding the interaction of occupational stressors and organisational commitment in the multiple regression analyses did not result in a significant increase in the explained percentage of variance in physical ill-health.

The results of multiple regression analyses with occupational stress (either because of job demands or because of a lack of resources) and organisational commitment as independent variables, and the interaction between these variables (to test for moderating effects), and psychological health are reported in Table 5. (Note: All the independent variables were centred). In the first model, the effects of the independent variables were entered, while in the second model the interaction term was also entered.

From Table 5, it is evident that stress because of job demands and organisational commitment explained 28% of the variance in psychological ill-health. Furthermore, stress because of a lack of job resources and organisational commitment explained 17% of the variance in psychological ill-health. However, adding the interaction of occupational stressors and organisational commitment in the multiple regression analyses did not result in a significant increase in the explained percentage of variance in psychological ill-health.

Table 5

Regression Analysis – Occupational Stress, Organisational Commitment and Psychological Ill-health

Independent variables: Stress: Job Demands, Organisational Commitment and Interaction term										
Model		Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	<i>p</i>	<i>F</i>	<i>R</i>	<i>R</i> ²	ΔR^2
		B	SE	Beta						
1	Summary						114,89*	0,53	0,28	-
	(Constant)	22,45	0,24		93,04	0,00				
	Stress: Job Demands	0,36	0,03	0,41	11,48	0,00				
	Organisational Commitment	-0,24	0,03	-0,25	-6,88	0,00				
2	Summary						76,47*	0,53	0,28	0,00
	(Constant)	22,45	0,25		90,67	0,00				
	Stress: Job Demands	0,36	0,03	0,41	11,42	0,00				
	Organisational Commitment	-0,24	0,04	-0,25	-6,78	0,00				
	Stress: Job Demands X Organisational Commitment	0,00	0,00	0,002	0,07	0,95				
Independent variables: Stress: Job Resources, Organisational Commitment and Interaction term										
Model		Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	<i>p</i>	<i>F</i>	<i>R</i>	<i>R</i> ²	ΔR^2
		B	SE	Beta						
1	Summary						62,19	0,42	0,17	-
	(Constant)	15,65	1,12		14,12 6	0,00				
	Stress: Job Resources	0,25	0,04	0,26	6,300	0,00				
	Organisational Commitment	-0,22	0,04	-0,23	-5,397	0,00				
2	Summary						41,54	0,42	0,17	0,00
	(Constant)	15,73	1,12		14,10	0,00				
	Stress: Job Resources	0,25	0,04	0,26	6,25	0,00				
	Organisational Commitment	-0,22	0,04	-0,2	-5,42	0,00				
	Stress: Job Resources X Organisational Commitment	0,00	0,00	0,02	0,62	0,54				

* $p < 0,01$ **DISCUSSION**

The objectives of this study were to identify indicators of occupational stress for academic staff in South African higher education institutions, to analyse differences between the occupational stress levels of different demographic groups, and to investigate whether organisational commitment moderates the effects of occupational stress on ill-health. Compared to the normative data, academics experienced high levels of occupational stress relating to pay and benefits, overload and work-life balance. Despite reporting high levels of

psychological ill-health, academics also experienced high levels of commitment both from and towards the organisation. Organisational commitment did not moderate the effects of occupational stress on ill-health. Analysis of variance revealed differences between the levels of occupational stress and ill-health of the demographic groups.

Results in this study showed that, compared to the normative data, academics experienced high levels of occupational stress relating to pay and benefits, overload and work-life balance. These sources of stress further encompass the main causes of stress in universities identified in previous research (i.e., Abouserie, 1996; AUT, 2003; Gillespie et al. 2001; Kinman, 1998; Winefield et al., 2002).

With regard to overload, academics felt particularly stressed by the time constraints placed upon them. Consequently, and in line with Kinman and Jones (2003), academics perceive that they do not perform their jobs (i.e., research and teaching) as well as they would like to. Results further showed that academics are set unrealistic deadlines to perform unmanageable workloads, which according to Gillespie et al. (2001), are likely to increase their stress levels. Moreover, findings also highlighted the significant impact that occupational stress was having on the academics' family life. Consistent with the findings of Kinman and Jones (2003), academics in this study indicated that they worked longer hours than they chose to or want to and often during weekends. Ultimately, these two factors contributed to the high levels of occupational stress academics experienced regarding work-life balance.

In comparison to the normative data, academics were less troubled by work relationships, job security, control, resources and communication and job characteristics. In line with previous studies, it seems that academics still have a considerable degree of control over their jobs (Kinman, 1998) and do not have problems dealing with, for instance, difficult students as part of their overall job (Tytherleigh et al., 2005). Given the fact that job characteristics are a predictor of job satisfaction, one can argue in support of previous findings, that academics are relatively satisfied with their jobs in spite of the perceived stressors and strains (Doyle & Hind, 1998; Watts et al. 1991). However, in contrast to other studies (Gillespie et al., 2001; Tytherleigh et al. 2005), academics did not experience high levels of stress relating to job security. This is quite remarkable since tertiary education institutions in South Africa are continually being faced with major changes such as reframing, restructuring, revitalisation and renewal (Viljoen & Rothmann, 2002).

It is noteworthy, however, that the Cronbach alpha coefficient for job security ($\alpha = 0,60$), resources and communication ($\alpha = 0,66$) and job characteristics ($\alpha = 0,61$) indicated unacceptable reliability. Therefore the authors conducted a simple principal component analysis on the 37 stressor items to determine a more reliable factor structure for use in differentiating the stress levels of the various demographic groups. The results showed that two reliable factors could be extracted namely, organisational resources and job demands. These two factors also correspond with the two factors distinguished by Spielberger, Vagg and Wasala (2003) (i.e., job demands and the level of support provided by supervisors, co-workers and organisational policies and procedures).

Results showed that academics with a five- to seven-year degree and associate professors in general, experienced the highest level of job demands. In this regard, Osipow et al. (1985) suggested that as people age and gain in experience and status within the organisation, they appear to take on additional responsibilities and consequently experience an increase in job demands. Dua (1994) for example found that staff above senior level are more stressed because of higher workloads. Furthermore, Winter et al. (2000) found that associate professors are more likely to experience role overload than academics employed at lower ranks. Role overload again has been found to be a salient stressor in academic work-life (Fisher, 1994; Lease, 1999). Regarding qualification, these results do not support the findings of Dua (1994) that academics with higher levels of qualifications are more likely to experience stress than those with lower qualifications. Consistent with previous studies (i.e., Abouserie, 1996; Gmelch & Burns, 1994; Dua, 1994) no significant differences regarding occupational stress were found between male and female academics.

The wealth of literature is also quite clear about the devastating impact of stress on the academic. In this study, academics experienced extremely high levels of psychological ill-health (sten score of ten). In line with Gillespie et al. (2001), factors such as constant irritability, avoiding contact with other people, feeling unable to cope and feeling or becoming angry with others too easily were some of the main factors contributing to academics' low levels of psychological well-being. Although academics had average scores on physical ill-health, they were troubled with sleep loss and muscular tension/ aches and pains (see Winefield et al. 2002).

Female academics reported higher levels of physical ill-health than male academics. According to Blix et al. (1994), women working in higher education experience more stressors and strains than their male counterparts as a result of a lack of role models and increased role conflict as they endeavour to balance roles at work and at home. Hayes (1986) for instance noted that the demands on women's time coupled with role conflicts and the absence of mentors negatively affect their health, work and relationships. Based on the findings of Osipow et al. (1985), results in this study showed that older academics (60–69 years) were less troubled by physical and psychological ill-health problems. This may be because as people get older they become more experienced and more worldly-wise and consequently adopt more rational cognitive coping mechanisms than younger academics (Dua, 1994; Osipow et al. 1985). No significant differences were found regarding ill-health problems for academics with different academic ranks.

Regardless of the stressors and strains reported in this study, academics still experienced high levels of commitment both from and towards the organisation. These results partially support the findings of another South African study (Coetzee & Rothmann, 2005), indicating that university staff are likely to be committed to their organisation, but contradict the findings of Tytherleigh et al. (2005) suggesting that all university staff perceived low commitment both from and to the organisation. However, results from a multiple regression analysis in this study showed that organisational commitment did not moderate the effects of occupational stress (job demands and a lack of resources) on ill-health (physical and psychological).

The present study also had some limitations. One of these derives from the fact that the present set of results, which was based on a cross-sectional data set. Therefore, it is inappropriate to speak of job demands as resources 'affecting' the outcome variables. All that has been shown is that the pattern of the effects is consistent with theoretical notions regarding the temporal order of the variables. Only longitudinal research can solve the issue of the causal order of these variables. Lastly, the results were heavily based on self-report measures, which are likely to increase at least part of the shared variances between measures.

RECOMMENDATIONS

With the accumulated evidence that occupational stress leads to adverse health outcomes, occupational stress research has reached the stage of intervention (Kompier & Kristensen, 2001). These authors further distinguish between primary-, secondary- and tertiary-level interventions. Primary-level interventions are concerned with modifying or eliminating the stressor inherent to the workplace in order to adapt the environment to better fit the individual. In the academic context, more equitable reward systems may reduce the high levels of stress academics experience regarding pay and benefits. Since overload also play a central role in the process that might lead to stress and health problems, reducing overload seems warranted. In line with Abouserie (1996), it is suggested that more research assistants and tutors be recruited to help in doing research and teaching and thus ease the time constraints and other pressures on lecturers. It is furthermore believed that a reduction in job demands will also help academics to achieve a more healthy balance between their work and home domains.

Secondary-level interventions can be implemented for academics who are already showing signs of stress from getting sick and in order to increase their coping capacity. It may be useful to organise stress management courses for academic staff to introduce them to more appropriate ways of managing stress. Cognitive structuring, time management and conflict resolution would be applicable in this context. Tertiary-level interventions are concerned with the rehabilitation of individuals who have suffered ill-health or reduced well-being as a result of stress in the workplace. Given the extremely high score of psychological ill-health and also suicide ideation among academics, such interventions are warranted.

Furthermore, stress-reduction approaches in the workplace could be improved by implementing a theoretical model. The ASSET model in particular has been used in a wide variety of occupations including health care, transportation and now academia. However, further refining and testing of the ASSET is needed, especially within the South African context. Cooper, Dewe, and O'Driscoll (2001) suggested that in order to minimise the negative spin-offs of occupational stress, it is important to take a holistic approach to the stress and strain of the employee. Finally, it is recommended that future studies of occupational stress should adhere to the multi-cultural context of the South African workforce.

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CHAPTER 5

ARTICLE 4

WORK WELLNESS OF ACADEMIC STAFF IN SOUTH AFRICAN HIGHER EDUCATION INSTITUTIONS

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ABSTRACT

The objective of this study was to test a model of work wellness for South African academic staff. A cross-sectional survey design was used, with stratified random samples ($N = 595$) taken of academic in six South African universities. The Maslach Burnout Inventory – General Survey, Utrecht Work Engagement Scale, Job Characteristics Inventory, the Health and Organisational Commitment subscales of the ASSET, The Life Orientation Test and Satisfaction with Life Scale were administered. The results showed that job demands contributed to burnout, while job resources contributed to work wellness (low burnout and high work engagement). Burnout mediated the relationship between job demands and ill-health; work wellness mediated the relationship between job resources and organisational commitment. Dispositional optimism moderated the effects of a lack of job resources on work engagement. Work wellness and health contributed to life satisfaction.

OPSOMMING

Die doelstelling van hierdie studie was om 'n model van werkwelstand vir Suid-Afrikaanse akademici te toets. 'n Dwarsdeursnee-opname-ontwerp is gebruik met gestratifiseerde ewekansige steekproewe ($N = 595$) geneem van akademici aan ses Suid-Afrikaanse hoërsonderwysinstellings. Die Maslach Uitbrandingskaal – Algemene Opname, Utrecht Werksbegeesteringskaal, Werkskarakteristieke-vraelys, die Gesondheid- en Organisasieverbondenheidskaal van die ASSET, die Lewensoriëntasietoets en die Lewenstevredenheidskaal is afgeneem. Die resultate het aangetoon dat werkseise tot uitbranding bygedra het, terwyl werksbronne tot werkwelstand (lae uitbranding en hoë werksbegeesting) bygedra het. Uitbranding het die verband tussen werkseise en swak gesondheid gematig; werkwelstand het die verband tussen werksbronne en organisasieverbondenheid gematig. Disposisionele optimisme het die effek van 'n gebrek aan werksbronne op werksbegeesting gemodereer. Werkwelstand en gesondheid het tot lewenstevredenheid bygedra.

Academia is a demanding profession, as evidenced by a body of research that documents the debilitating impact of occupational stress on the personal and professional welfare of academics (Kinman & Jones, 2003). Stress among academics has been linked to phenomena such as poor physical well-being (Winefield, Gillespie, Stough, Dua, & Hapuararchchi, 2002), mental ill-health (Doyle & Hind, 1998) and turnover intentions (Kinman, 2001). One well-established line of research considers stress the main cause of burnout, suggesting that academics who experience greater demands on their time, attention and energy than others, while receiving fewer awards and less recognition, run the risk of becoming more exhausted and alienated from their work lives (see Blix, Cruise, Mitchell, & Blix; Lackritz, 2004). Clearly, the higher educational enterprise imposes serious risks on the health and well-being of its academic staff members.

Despite widespread complaints about stressors and strains, academics seem to be enthusiastic about their work, and obtain a significant degree of satisfaction and challenge from their jobs (Kinman, 2001). Winter, Taylor, and Sarros (2000) found that academics strongly rejected the perception that they engaged in work activities that provided no intrinsic pride or fulfilment, or that their work was purely a means to some end. Whilst Doyle and Hind (1998) found long working hours and high levels of burnout amongst a sample of university lecturers, 40% of the respondents found their work intrinsically motivating, enjoyable and potentially very rewarding. Lease (1999) reported that academics, irrespective of high levels of role overload and overwhelming workloads, still indicated that their careers were progressing as well as expected. Thus, in line with the argument of Cooper, Dewe, and O'Driscoll (2001), one person's stress can indeed be another's excitement or energiser. Therefore, academics might exhibit positive psychological responses to stressors, commonly labelled as 'eustress' (Nelson & Simmons, 2003).

Given a research tradition that places considerable emphasis on understanding individual differences between people and their perception of, and reactions to stress, researchers have identified a range of individual differences that can influence the stressor-strain relationship (Cooper & Dewe, 2004). Characteristics such as optimism have been found to moderate the effects of burnout on ill-health (Barkhuizen, Rothmann, & Tytherleigh, in press). Moreover, Scheier and Carver (1992) report that dispositional optimism exerts a positive effect on personal adjustment, life satisfaction, and overall well-being.

A combination of burnout (exhaustion and mental distance), work engagement (vigour and dedication), organisational commitment, life satisfaction, health outcomes and situational causes (i.e., job demands and job resources) in a structural model of work wellness for academic staff in South African higher education institutions could not be found in the literature. The objective of this study was to test a model of work wellness for academic staff in South African higher education institutions by incorporating the aforementioned constructs and to assess whether dispositional optimism moderates the effects of job demands and job resources on their work wellness.

Towards a model of work wellness among academic staff

Burnout and engagement. Burnout and engagement are two concepts, covering the entire spectrum of employee wellness (Schaufeli, 2003). To date, numerous definitions of burnout exist, depending on the nature of the occupation studied and measurement used. Initially, and exclusively restricted to so-called helping professions, burnout (measured by the Maslach Burnout Inventory: MBI), was conceived as "a syndrome of emotional exhaustion, depersonalisation and reduced personal accomplishment" (Maslach & Jackson, 1986, p. 1). However, in 1996 the concept of burnout was broadened with the introduction of the General Survey (MBI-GS) which implies a crises in one's relationship with work *in general* and not necessarily a crises in one's relationship with *people* at work (Maslach, Jackson, & Leiter, 1996). Accordingly, the three original burnout dimensions were redefined and replaced by exhaustion, cynicism and professional efficacy. Most recently, in using adapted versions of the MBI, burnout has been conceptualised in terms of exhaustion, mental distance (cynicism and depersonalisation) and reduced professional efficacy (see Barkhuizen & Rothmann, 2005a; Jackson and Rothmann, 2004).

Theoretically speaking (emotional and cognitive) exhaustion and mental distancing (cynicism or depersonalisation) constitute the basic hallmarks of burnout (Schaufeli, 2003). Exhaustion refers to an employee's *incapability* of performing because all energy has been drained, whereas mental distancing involves an employee's *unwillingness* to perform because of an increased intolerance of making any effort. Mental distancing, or psychological withdrawal from the task, can be seen as an adaptive mechanism for coping with excessive job demands and the resulting feelings of exhaustion (Maslach, Schaufeli, & Leiter, 2001). However, when this coping strategy becomes habitual – as is the case in cynicism and depersonalisation – it

disrupts adequate task performance and becomes dysfunctional. In turn, this condition leads to an increase in job demands and exhaustion which completes the vicious circle. Professional efficacy, often referred to as the "weakest", "least specific" or "unnecessary" dimension of burnout, encompasses both social and non-social aspects of occupational accomplishment (Lee & Ashforth, 1996; Schaufeli, 2003). Moreover, several authors argue that professional efficacy reflects a personality characteristic rather than a genuine burnout-component (Cordes & Dougherty, 1993; Shirom, 1989).

With the upcoming "positive paradigm" in Occupational Health Psychology, it is not surprising that the concept of burnout has recently been supplemented to its positive antipode: work engagement (Schaufeli, 2003). Engagement is defined as an energetic state in which the employee is dedicated to give excellent work performance and is confident in his or her effectiveness (Schutte, Toppinen, Kalimo, & Schaufeli, 2000). More specifically, work engagement is characterised by three dimensions namely, vigour, dedication and absorption (Schaufeli, Salanova, González-Romá, & Bakker, 2002). *Vigour* is characterised by high levels of energy and mental resilience while working, the willingness to invest effort in one's work and persistence, even in the face of difficulties. *Dedication* is characterised by a sense of significance, enthusiasm, inspiration, pride and challenge. Finally, *absorption* is characterised by being totally and happily immersed in one's work, to the extent that it is difficult to detach oneself from it. Absorption most likely plays a less central role in the engagement concept.

Given the fact that burnout and engagement are indicators of wellness of employees at work, Schaufeli and Bakker (2004) suggest that they could be combined in a model of well-being. Based on a theoretical analysis, these authors identify two underlying dimensions of work wellness: (1) activation, ranging from exhaustion to vigour, and (2) identification, ranging from cynicism to dedication. Theoretically speaking, burnout is then characterised by a combination of exhaustion (low activation) and mental distance (low identification), whereas engagement is characterised by vigour (high activation) and dedication (high identification). Accordingly, vigour and dedication are considered direct opposites of exhaustion and mental distance respectively.

Job demands and job resources. Job demands and job resources have frequently been studied in the etiology of burnout. According to Schaufeli and Bakker (2004) job demands are those

physical, psychological, social, or organisational aspects of the job that require sustained physical and/or psychological (i.e., cognitive or emotional) effort and are therefore associated with certain physiological and psychological costs such as burnout. Job resources refer to those physical, psychological, social, or organisational aspects of the job that either reduce job demands and the associated physiological and psychological costs, or are functional in achieving work goals and stimulate personal growth, learning and development. Recently, Schaufeli and Bakker (2004) found, by using a Comprehensive Burnout and Engagement (COBE) Model, that burnout is mainly predicted by job demands and a lack of job resources, whereas engagement is exclusively predicted by available job resources. Furthermore, burnout is related to health problems as well as to turnover intention, while engagement is related only to the latter. Results indicated that burnout mediates the relationship between job demands and health problems, whereas engagement mediates the relationship between job resources and turnover intention.

Applied within the South African context, similar trends were observed. Barkhuizen et al. (in press), in a study of 279 academic staff members, found that high job demands and low availability of job resources predicted burnout. In a similar vein, Jackson, Rothmann and Van de Vijver (in press) reported that job demands and a lack of job resources contributed to burnout, whereas job resources predicted work engagement. Furthermore, burnout mediated the relationship between job demands and ill-health, whilst work engagement mediated the relationship between job resources and organisational commitment. Coetzer and Rothmann (2004) found that job demands and a lack of resources increased the levels of burnout, while the availability of resources increased the levels of engagement.

Ill-health. The voluminous body of literature is quite clear about the negative effects of occupational stressors and burnout on the academic. Overall, the psychological well-being of academics seems to be relatively poor (Daniels & Guppy, 1994; Kinman, 2001; Kinman & Jones, 2003). Doyle and Hind (1998), for example, found levels of burnout in a sample of 582 academics comparable with those reported by members of the medical profession (generally considered a highly stressed group). Barkhuizen et al. (in press) found that burnout predicted health problems amongst academic staff members. Other studies have highlighted physical ill-health problems amongst academics. Gillespie, Walsh, Winefield, Dua and Stough (2001) found that three quarters of the respondents in their study suffered from

physical health effects such as headaches and migraines, sleep disorders, back and neck pain, constant muscle pain, weight loss and gain.

Organisational commitment. Organisational commitment, defined as the psychological attachment of workers to their organisation, continues to remain one of the most enduring topics in the organisational sciences (Bauer & Green, 1998). Organisational commitment has been found to relate positively with desirable work outcomes, including employee job satisfaction, motivation and performance, and negatively to absenteeism and turnover (Mathieu & Zajac, 1990). While organisational commitment seems to diminish in the presence of burnout (Leiter & Maslach, 1988), engagement is a useful indicator of commitment – and to such an extent that engaged employees are expected to be loyal and psychologically committed to the organisation (Blizzard, 2002). It can be concluded that people who are engaged in their jobs tend to be committed to their organisations, and vice versa. However, work engagement and organisational commitment do not always track closely together. Winter et al. (2000) found that although academics remain very attached to their jobs/work activities, they do not exhibit the same levels of attachment to their institutions. Thus, although the two concepts are related, they are not identical – organisational commitment focuses on the organisation, whereas engagement is more concerned with the work itself (Maslach et al., 2001).

Optimism. According to Nelson and Simmons (2003), there is benefit in identifying those individual differences that would promote wellness through their role in more positive appraisals of demands. Alternatively, these characteristics could serve to arm individuals with the belief that they are equipped to handle a demand. As an individual difference variable, optimism has been associated with good mood, perseverance and health. Optimism refers to a "conviction that the future holds desirable outcomes, irrespective of one's personal ability to control those outcomes" (Marshall & Lang, 1990, p. 132). As a positive outcome expectancy, optimism has been identified as an important factor in physical health, especially for people experiencing stress (Cassidy, 2000). Moreover, as a dispositional trait, optimism has been of considerable interest as a potential moderator of the relationship between job stressors and psychological strain (Cooper et al., 2001). Optimism has also been shown to be a powerful personal variable related to outcomes in organisational settings (Riulli & Savicki, 2003). These authors found that high levels of optimism have positive effects on both exhaustion and depersonalisation. Furthermore, Barkhuizen et al. (in press) found that dispositional

optimism moderated the effects that high job demands and a lack of job resources have on academic burnout. Clearly then, individual well-being depends on optimism (Schweizer, Beck-Syeffner, & Schneider, 1999)

Life satisfaction. According to Diener, Suh, Lucas and Smith (1999), a person is as well as he perceives himself to be. Conceptions of wellness should thus involve components such as life satisfaction. Overall life satisfaction is defined as the degree to which the experience of an individual's life satisfies that individual's wants and needs, both physically and psychologically (Rice, 1984). This author, furthermore developed a model, proposing that work conditions influence life satisfaction by changing characteristics of the person or the environment. Such changes include short-term effects of work (i.e., changes in mood, energy level and interests) and long-term effects of work (i.e., changes in skills, personality and health). As burnout may be conceived as a long-term consequence of work (Shirom, 1989), it can be used as an indicator of the perceived quality of one's working life.

Indeed, two recent studies found that life satisfaction is inversely related to negative outcomes of wellness such as exhaustion and disengagement (Demerouti, Bakker, Nachreiner, & Schaufeli, 2000; Lee, Hwang, Kim, & Daly, 2004). Demerouti et al. (2000) further found that burnout mediated the effects of working conditions (i.e., job demands and job resources) on life satisfaction. High demands contributed to burnout, which, in turn, led to reduced levels of life satisfaction; or a lack of resources led to disengagement, which, in turn, also led to lower life satisfaction. Therefore, it would seem that work conditions influence life satisfaction via the impairment of health. Satisfaction with one's health, on the other hand, is a central factor influencing life satisfaction (Atchley, 1994; Krause, 1987).

METHOD

Research design

A cross-sectional survey design, by means of which a sample is drawn from a population at a particular point in time (Shaughnessy & Zechmeister, 1997), was used to achieve the research objective.

Participants

Surveys were distributed to 2000 randomly selected academic staff members from six South African universities. The final sample consisted of 595 participants, representing a return rate of 28,33%. Table 1 indicates the personal and professional profiles of the academic respondents.

Table 1
Characteristics of the Participants

Item	Category	Frequency	Percentage
University	North-West University	268	46,7
	University of Port Elizabeth	77	12,9
	University of the Orange Free State	86	14,5
	Rhodes University	38	6,4
	University of the Witwatersrand	45	7,6
	University of Cape Town	71	11,9
Job title	Junior lecturer	45	7,6
	Lecturer	176	29,6
	Senior lecturer	153	25,7
	Associate professor	75	12,6
	Full professor	117	19,7
Qualification	Grade 12 + 3-year Degree	17	2,9
	Grade 12 + 4-year Degree or Honours	67	11,3
	Grade 12 + 5- to 7-year Degree (i.e. Medicine)	8	1,3
	Grade 12 + Master's Degree	200	33,6
	Grade 12 + Doctoral Degree	287	48,2
Focus	Research	47	8,1
	Lecturing	145	25,0
	Research and lecturing	388	66,9
Gender	Male	297	49,9
	Female	298	50,1
Age category	20-29 years	70	11,8
	30-39 years	157	26,4
	40-49 years	182	30,6
	50-59 years	140	23,5
	60-69 years	42	7,1
Language	Afrikaans	380	63,9
	English	207	34,8
Tenure	Permanent	513	86,2
	Temporary	35	5,9
	Fixed-term	44	7,4

As can be seen in Table 1, the majority of the participants were from the North-West University (46,7%). Academic rank consisted primarily of lecturers (29,6%), with the principal degree held being a doctorate (46,7%). Females constituted most of the participants

(50,1%), were married (67,6%) and between the ages of 40 to 49 years (30,6%). Participants were predominantly Afrikaans-speaking (63,9%) and most had stable careers with 86,2% currently tenured at their institutions.

Measuring battery

An adapted version of the *Maslach Burnout Inventory – General Survey* (MBI-GS) (Maslach et al., 1996) was used to measure burnout. The following subscales of the MBI-GS were used: Exhaustion (five items; i.e., "I feel used up at the end of the workday"), and Mental Distance (seven items; i.e., "I have become less enthusiastic about my work"). All items were scored on a seven-point frequency scale, ranging from 0 (*never*) to 6 (*daily*). Both Barkhuizen and Rothmann (2005a) and Jackson and Rothmann (2004) confirmed the construct equivalence and construct validity of these scales. The internal consistencies (Cronbach alpha coefficients) reported by Schaufeli, Van Dierendonck and Van Gorp (1996) varied from 0,87 to 0,89 for Exhaustion, and 0,73 to 0,84 for Cynicism. Test-retest reliabilities after one year were 0,65 (Exhaustion), and 0,60 (Cynicism) (Schaufeli, Leiter, Maslach, & Jackson, 1996). Barkhuizen et al. (in press) found internal consistencies of 0,86 and 0,76 for Exhaustion and Cynicism respectively in a sample of academic staff members. Other South African studies obtained Cronbach alpha coefficients, ranging from 0,86 to 0,88 for Exhaustion and 0,79 to 0,80 for Cynicism (Coetzer & Rothmann, in press; Storm & Rothmann, 2003a).

The *Utrecht Work Engagement Scale* (UWES) was developed by Schaufeli et al. (2002) to measure work engagement. Only two of the subscales of the UWES were used for purposes of this study, namely *Vigour* (three items; i.e., "I am bursting with energy in my work") and *Dedication* (five items; i.e., "I find my work full of meaning and purpose"). The alpha coefficients for the subscales varied between 0,68 and 0,91 (Schaufeli et al., 2002). Two recent studies using confirmatory factor analysis demonstrated the factorial validity of the UWES (Schaufeli, Bakker, Hoogduin, Schaap, & Kladler, 2001; Schaufeli et al., 2002). Applied to the South African context, Storm and Rothmann (2003b) obtained alpha coefficients of 0,78 for Vigour and 0,89 for Dedication in a sample of police workers. Both Barkhuizen and Rothmann (2005b) and Jackson and Rothmann (in press) found that the UWES shows construct equivalence and construct validity for South African academic staff members and teachers respectively.

The *Job Characteristics Scale (JCS)* was developed by the authors to measure job demands and job resources for employees. The JCS consists of 41 items. The questions are rated on a four-point scale ranging from 1 (*never*) to 4 (*always*). The dimensions of the JCS include pace and amount of work, mental load, emotional load, work variety, opportunities to learn, work independence, relationships with colleagues, relationship with immediate supervisor, ambiguities of work, information, communications, participation, contact possibilities, remuneration and career possibilities.

The *Health subscales of ASSET (An Organisational Stress Screening Tool)* were developed by Cartwright and Cooper (2002) to assess the respondent's level of health. The Health subscales consist of 19 items arranged on two subscales: Physical health and Psychological well-being. All items on the Physical health subscale relate to physical symptoms of stress. The items listed on the Psychological well-being subscale are symptoms of stress-induced mental ill-health. Johnson and Cooper (2003) found that the Psychological well-being subscale has good convergent validity with an existing measure of psychiatric disorders, the General Health Questionnaire (GHQ-12; Goldberg & Williams, 1988).

The *Life Orientation Test – Revised (LOT-R)*, a 10-item measure, was developed by Scheier, Carver and Bridges (1994) to measure dispositional optimism. Six items contribute to the optimism score and four items are fillers. The original Life Orientation Test, which hypothesised a two-factor structure of optimism (i.e., optimism and pessimism), was questioned (Harju & Bolen, 1998). Follow-up analysis has demonstrated a one-factor structure, indicating that the LOT-R is measures a continuum of high, average and low optimism/pessimism (Scheier et al., 1994). The LOT-R measures optimism/pessimism on a five-point Likert Scale, ranging from 1 (*I strongly disagree*) to 5 (*I strongly agree*). The LOT-R was found to have adequate internal consistency ($\alpha = 0,78$) and excellent convergent and discriminant validity (Scheier et al., 1994). Based on a sample of 204 college students, Harju and Bolen (1998) obtained a Cronbach alpha coefficient of 0,75. In the South African context, Coetzer and Rothmann (2004) found adequate internal consistency for the LOT-R ($\alpha = 0,70$).

The *Satisfaction with Life Scale (SWLS)*, a five-item measure, was developed by Diener, Emmons, Larsen, and Griffin (1985) to measure global cognitive judgements of one's life.

According to Diener et al. (1985), the SWLS is designed around the idea that one should ask respondents about the overall judgement of their life in order to measure the concept of life satisfaction. Participants are asked to indicate their degree of agreement or disagreement on a seven-point Likert scale, ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). Scores on the SWLS range from 5 to 35, with higher scores indicating greater life satisfaction. Diener et al. (1985, p. 72) reported a two-month test-retest correlation coefficient of 0,82 and a Cronbach alpha coefficient of 0,87. The inter-item correlation matrix was factor analysed, using principal axis factor analysis. According to the eigenvalues, a single factor emerged, accounting for 66% of the variance (Diener et al., 1985).

Statistical analysis

The statistical analysis was carried out with the SPSS Program (SPSS Inc., 2003) and the Amos Program (Arbuckle, 1999). Descriptive statistics were used to explore the data. Exploratory factor analyses and Cronbach alpha coefficients were then computed to assess the validity and reliability of the constructs which were measured in this study. Exploratory factor analyses were carried out to investigate the construct validity of the measuring instruments and to prepare a test of our theoretical model in a path analysis, following a two-step procedure. First, a simple principal components analysis was conducted on the constructs that form part of the measurement model, including burnout and work engagement, job characteristics, ill-health, dispositional optimism, organisational commitment, and life satisfaction. The eigenvalues and scree plot were studied to determine the number of factors. Second, a principal components analysis with a direct Oblimin rotation was conducted if factors were related, and a principal component analysis with a Varimax rotation was used if the obtained factors were not related (Tabachnick & Fidell, 2001).

Pearson product-moment correlation coefficients were used to specify the relationship between the variables. In terms of significance, it was decided to set the value at a 95% confidence interval level ($p \leq 0,05$). Effect sizes (Steyn, 1999) were used to decide on the practical significance of the findings. A cut-off point of 0,30 (medium effect, Cohen, 1988) was set for the practical significance of correlation coefficients.

Hypothesised relationships were tested empirically for goodness of fit with the sample data. Among the fit indices produced by the AMOS Program is the Chi-square statistic (χ^2), which is the test of absolute fit of the model. However, the χ^2 value is sensitive to sample size. Therefore, additional goodness-of-fit indices, such as the Goodness-of-Fit Index (GFI), the Adjusted Goodness-of-Fit Index (AGFI), the Normed Fit Index (NFI), the Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI) and the Root Means Square Error of Approximation (RMSEA), were used in this study.

RESULTS

Construct validity of the measuring instruments

Burnout and work engagement. A simple component analysis was conducted on two dimensions of burnout (i.e., Exhaustion and Mental Distance), and work engagement (i.e., Vigour/Dedication). These factors represent the energy dimension (ranging from Exhaustion to Vigour) and identification (ranging from Mental Distance to Dedication) of wellness. Two related factors ($r = 0,53$), which explained 86,53% of the total variance, were extracted. Next, a principal component analysis with a direct oblimin rotation was conducted on these dimensions of burnout and engagement. The results showed that Exhaustion (loading = 0,99) and Mental Distance (loading = 0,67) formed the first factor (labelled *Burnout*) and Vigour/Dedication (loading = 0,98) formed the second factor (labelled *Work Engagement*).

Job demands and job resources. A principal components analysis that was carried out on the 41 items of JCS showed four factors, which explained 46,59% of the total variance. Next, a principal factor analysis with a Varimax rotation was conducted on the 41 items. The first factor (labelled *Structure and Relationships*) included the following items: counting on colleagues when you come across difficulties (loading = 0,52), if necessary, ask your colleagues for help (0,51), getting on well with colleagues (0,50) counting on supervisor when you come across difficulties in your work (0,74), getting on well with your supervisor (0,72), feeling appreciated by your supervisor (0,75), knowing exactly what other people expect of you in your work (0,60), knowing exactly for what you are responsible (0,51), knowing exactly what your direct supervisor thinks of your performance (0,72), receiving sufficient information on the results of your work (0,69), receiving sufficient information on

the purpose of your work (0,69), receiving sufficient information on the results of your work (0,69), being informed by the direct supervisor about how well you are doing your work (0,69), being kept adequately up to date about important issues within the institution (0,62), working for an institution with a clear decision-making process (0,62), knowing to whom you should address specific problems (0,64), opportunity to discuss work problems with supervisor (0,78), ability to participate in decisions about the nature of your work (0,69), having a direct influence on your institution's decisions (0,51) and having contact with colleagues as part of your work (0,43).

The second factor (labelled *Growth Opportunities and Advancement*) included the following items: doing work that makes sufficient demands on your skills and capacities (loading = 0,51), having enough variety in your work (0,60), having a job that offers you opportunities for personal growth and development (0,65), having the feeling that you can achieve something (0,68), having a job which offers you the possibility of independent thought and action (0,55), having freedom in carrying out your work activities (0,42), having influence in the planning of your work activities (0,41), thinking that the university pays good salaries (0,63), ability to live comfortably on your pay (0,65), thinking that you are paid enough for the work you do (0,63), the job offers the possibility to progress financially (0,67) and the job give you the opportunity to be promoted (0,52).

The third factor (labelled *Overload*) included the following items: having too much work to do (loading = 0,67), working under time pressure (0,70), having to be attentive to many things at the same time (0,68), having to give continuous attention to your work (0,60), having to remember many things in your work (0,67), being confronted in your work with things that affect you personally (0,49) and being put in emotionally upsetting conditions (0,47).

The fourth factor (labelled *Job Security*) included the following items: needing to be more secure that you will still be working in one year's time (loading = 0,91), need to be more secure that you will keep your current job in the next year (0,93) and needing to be more secure that next year you will keep the same functional level as currently held (0,87).

Subsequently, the four factors of the JCS were subjected to a second-order principal component analysis. Two factors, which explained 65,03% of the variance, were extracted.

Because the factors were not highly related ($r = -0,11$), it was decided to use principal factor analysis with varimax rotation to extract the factors. Structure and Relationships (loading = 0,81) and Growth and Advancement (0,82) formed the first factor (labelled *Job Resources*), while Overload (loading = 0,88) formed the second factor (labelled *Job demands*). Job security loaded negatively on both factors and was therefore not included in the subsequent analyses.

Ill-health. A simple principal component analysis that was carried out on the 19 items of the health subscales of the ASSET resulted in two factors, which explained 56,22% of the variance could be extracted. Next, a principal component analysis with a direct Oblimin rotation was conducted on the 19 items. The two related factors ($r = 0,56$) which were extracted, were labelled as *Physical Ill-health* (six items) and *Psychological Ill-health* (10 items).

Dispositional Optimism. A simple principal component analysis that was carried out on the six items of the LOT-R resulted in one factor, which explained 51,23% of the variance. The component loadings varied between 0,61 and 0,78. This factor includes three items measuring pessimism (reverse scored) and three items measuring optimism.

Organisational Commitment. A simple principal component analysis that was carried out on the nine items of the Organisational Commitment subscale of the ASSET resulted in a two-factor solution, which explained 68,99% of the variance. However, two items were problematic and loaded on the wrong factor. Subsequently, these two were items removed and a simple principal component analysis was carried out on the remaining seven items, that resulted in a one-factor solution, which explained 63,84% of the total variance. The factor, was labelled *Organisational Commitment*. The item loadings on the factor varied from 0,58 to 0,89.

Life satisfaction. A principal component analysis that was carried out on the five items of the Satisfaction with Life Scale, resulted in a one-factor solution, which explained 70,92% of the total variance. The factor was labelled *Life Satisfaction*. The item loadings on the factor varied from 0,73 to 0,87.

Descriptive statistics

The descriptive statistics and alpha coefficients of the MBI-GS, UWES, JCS, the Health subscales, Organisational Commitment Subscale, LOT-R and SWLS are given in Table 2.

Table 2

Descriptive Statistics and Alpha Coefficients of the Measuring Instruments

Items	Mean	SD	Skewness	Kurtosis	α
Exhaustion	14,27	7,16	0,06	-0,84	0,87
Mental Distance	14,81	9,81	0,60	-0,18	0,82
Vigour/Dedication	39,32	9,38	-0,75	-0,20	0,89
Overload	21,39	3,27	-0,42	-0,01	0,70
Growth and Advancement	31,10	6,14	0,01	-0,05	0,85
Structure and Relationships	55,15	10,44	-0,27	-0,52	0,92
Physical Ill-health	13,51	4,30	0,11	-0,71	0,79
Psychological Ill-health	22,45	6,92	0,01	-0,63	0,92
Optimism	22,07	4,29	-0,45	-0,15	0,80
Organisational Commitment	29,88	7,27	-0,85	0,48	0,90
Life satisfaction	19,87	6,41	-0,66	-0,08	0,89

Inspection of Table 2 revealed that acceptable alpha coefficients, ranging from 0,70 to 0,91, were obtained for the scales (see Nunnally & Bernstein, 1994). Therefore, the scales show acceptable internal consistencies. It is evident from Table 2 that most of the scales of the measuring instruments have relatively normal distributions, with low skewness and kurtosis. In comparison to the normative data, academics may be described as experiencing moderate to high levels of burnout, characterised by moderate levels of exhaustion and high levels of mental distance. Academics experience moderate levels of work engagement as far as vigour/dedication is concerned. Compared to the normative data, they reported disturbingly high levels of psychological ill-health, but seem less troubled by physical ill-health. Furthermore, academics seem to be highly committed to their organisations, and indicate above-average levels of satisfaction with life.

Correlations between the constructs

The product-moment correlation coefficients between constructs are reported in Table 3.

Table 3
Correlation Coefficients between the Measuring Instruments

Items	1	2	3	4	5	6	7	8	9	10
1. Exhaustion	-	-	-	-	-	-	-	-	-	-
2. Mental Distance	0,58 ⁺⁺⁺	-	-	-	-	-	-	-	-	-
3. Vigour/Dedication	-0,49 ^{**}	-0,55 ⁺⁺⁺	-	-	-	-	-	-	-	-
4. Overload	0,40 ^{**}	0,23 [*]	-0,05	-	-	-	-	-	-	-
5. Growth and Advancement	-0,31 ^{**}	-0,42 ^{**}	0,52 ⁺⁺⁺	-0,05	-	-	-	-	-	-
6. Structure and Relations	-0,34 ^{**}	-0,46 ^{**}	0,49 ^{**}	-0,14 [*]	0,49 ^{**}	-	-	-	-	-
7. Physical Ill-health	0,46 ^{**}	0,30 ^{**}	-0,36 ^{**}	0,21 [*]	-0,23 [*]	-0,26 [*]	-	-	-	-
8. Psychological Ill-health	0,63 ⁺⁺⁺	0,51 ⁺⁺⁺	-0,53 ⁺⁺⁺	0,29 [*]	-0,28 [*]	-0,39 ^{**}	0,67 ⁺⁺⁺	-	-	-
9. Optimism	-0,36 ^{**}	-0,35 [*]	0,48 ^{**}	-0,10	0,29 [*]	0,29 [*]	-0,32 ^{**}	-0,41 ^{**}	-	-
10. Organisational Commitment	-0,36 ^{**}	-0,46 ^{**}	0,57 ⁺⁺⁺	-0,15 [*]	0,51 ⁺⁺⁺	0,51 ⁺⁺⁺	-0,23 [*]	-0,35 ^{**}	0,30 ^{**}	-
11. Life satisfaction	-0,38 ^{**}	-0,35 ^{**}	0,54 ⁺⁺⁺	-0,10 [*]	0,41 ^{**}	0,35 ^{**}	-0,32 ^{**}	-0,42 ^{**}	0,47 ^{**}	0,39 ^{**}

* Statistically significant: $p < 0,01$

+ Practically significant correlation (medium effect): $r > 0,30$

++ Practically significant correlation (large effect): $r > 0,50$

Table 3 shows a practically significant correlation coefficient of large effect between Exhaustion and Mental Distance. Exhaustion and Mental Distance are negatively related to Vigour/Dedication, Growth and Advancement Resources, Structure and Relations, Optimism, Organisational Commitment and Life Satisfaction (all medium effects). Exhaustion and Mental Distance are also practically significantly related to Overload and Physical Ill-health (both medium effects) and Psychological Ill-health (large effect). Vigour/Dedication is practically significantly related to Growth and Advancement, Organisational Commitment and Life Satisfaction (all large effects). Vigour/Dedication is also related to Structure and Relations and Optimism.

Next, a model was constructed based upon the results of the correlations and consensus of findings from a review of the work wellness literature as it relates to the academic profession. It was hypothesised that Job demands (i.e., Overload) and a lack of resources (i.e., Structure and Relationships; Growth and Advancement Opportunities) lead to Burnout (i.e. Exhaustion and Mental Distance), which will result in Ill-health (i.e., Physical and Psychological Ill-

health). Job resources (i.e., Structure and Relationships; Growth and Advancement opportunities), will predict Work Wellness, which will result in Organisational Commitment and Life Satisfaction. The proposed model, including the hypothesised relationships, was tested with SEM analysis. Results indicated that the model did fit adequately to the data $\chi^2 = 159,72$, $\chi^2 / df = 5,15$, GFI = 0,95; AGFI = 0,91; CFI = 0,95, IFI = 0,95, TLI = 0,92, and RMSEA = 0,08. The final model is given in Figure 1.

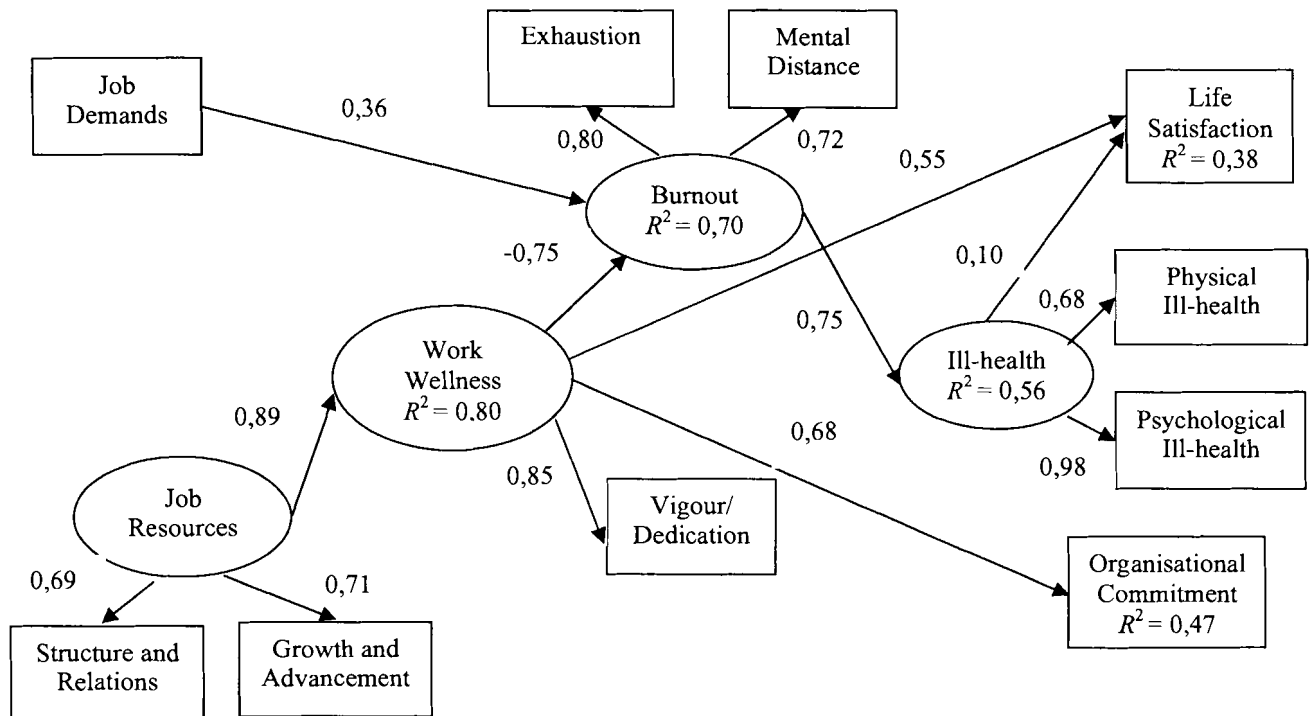


Figure 1. A maximum likelihood estimate for the model of work wellness, $N = 595$.

As can be seen in Figure 1, the path from Job demands (Overload) to Burnout (Exhaustion and Mental Distance) is significant and positive. Burnout mediates the relationship between Job demands and Ill-health. This means that employees who experience high workloads are likely to develop high levels of burnout, which, in turn, may lead to health problems. The path from job resources to work wellness (i.e., low burnout and high work engagement) is significant. This means that the availability of job resources increases the employee's work wellness (a second order factor consisting of low burnout and high work engagement). Work wellness mediates the relationship between Job resources and Organisational Commitment. Furthermore, both work wellness (low burnout and high work engagement) and low ill-health contribute to life satisfaction.

Next the possible moderating effects of optimism and pessimism were tested on the positive (i.e., Vigour/Dedication) and negative (i.e., Exhaustion, Mental Distance) components of work wellness. A two-step multiple regression analysis was conducted with the variables in their continuous form. In the first step, the predictor (i.e., Exhaustion) and moderator (i.e., Optimism) were entered into the regression equation, followed by their interaction in the second step. The interaction term is represented by the product of the two main effects (i.e., Optimism \times Exhaustion) (Aiken & West, 1991). Also, in line with these authors the independent variable and the moderator were centred before testing for the significance of the interaction term.

The results of a multiple regression analysis with Exhaustion as dependent variable are reported in Table 4. It is clear from Table 4 that Overload and Optimism explained 28% of the variance in Exhaustion. However, the R^2 did not increase significantly when the interaction term between Overload and Optimism was entered. Also the interaction term was not statistically significant. Furthermore, Structure and Relations as job resources and Optimism explained 19% of the variance in Exhaustion, but the interaction term was not statistically significant and there was only a 0,002 increase in R^2 (which is not significant). Lastly, Growth and Advancement (as job resources) and Optimism explained 18% of the variance in Exhaustion, but the interaction term of these two variables was not statistically significant. These results show that job demands, job resources and optimism contribute directly to exhaustion. However, optimism did not moderate the effects of job demands and job resources on exhaustion.

The results of a multiple regression analysis with Mental Distance as dependent variable are reported in Table 4.

Table 4

Regression Analysis with Exhaustion as Dependent Variable

Independent variables: Overload, Optimism and Interaction term										
Model		Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	<i>p</i>	<i>F</i>	<i>R</i>	<i>R</i> ²	ΔR^2
		B	SE	Beta						
1	Summary						114,89*	0,53	0,28	-
	(Constant)	22,45	0,24		93,04	0,00				
	Overload	0,36	0,03	0,41	11,48	0,00				
	Optimism	-0,24	0,03	-0,25	-6,88	0,00				
2	Summary						76,47*	0,53	0,28	0,000
	(Constant)	22,45	0,25		90,67	0,00				
	Overload	0,36	0,03	0,41	11,42	0,00				
	Optimism	-0,24	0,04	-0,25	-6,78	0,00				
	Overload × Optimism	0,00	0,00	0,002	0,07	0,95				
Independent variables: Structure and Relationships, Optimism and Interaction term										
Model		Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	<i>p</i>	<i>F</i>	<i>R</i>	<i>R</i> ²	ΔR^2
		B	SE	Beta						
1	Summary						69,79*	0,44	0,19	-
	(Constant)	14,27	0,27		53,940	,000				
	Structure/Relations	-0,18	0,03	-,262	-6,781	,000				
	Optimism	-0,47	0,06	-,282	-7,310	,000				
2	Summary						46,58*	0,44	0,19	0,000
	(Constant)	14,31	0,28		52,14	0,00				
	Structure and Relations	-0,18	0,03	-0,26	-6,78	0,00				
	Optimism	-0,47	0,07	-0,28	-7,33	0,00				
	Structure/Relations × Optimism	-0,00	0,01	-0,02	-0,56	0,58				
Independent variables: Growth and Advancement, Optimism and Interaction term										
Model		Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	<i>p</i>	<i>F</i>	<i>R</i>	<i>R</i> ²	ΔR^2
		B	SE	Beta						
1	Summary						62,99	0,42	0,18	-
	(Constant)	14,27	0,27		53,44	0,00				
	Growth/Advancement	-0,27	0,05	-0,23	-5,84	0,00				
	Optimism	-0,49	0,07	-0,29	-7,48	0,00				
2	Summary						41,92	0,42	0,18	0,000
	(Constant)	14,28	0,28		51,51	0,00				
	Growth/Advancement	-0,27	0,05	-0,23	-5,83	0,00				
	Optimism	-0,49	0,07	-0,29	-7,45	0,00				
	Growth/Advancement × Optimism	0,00	0,01	-0,00	-0,04	0,97				

* $p < 0,01$

Table 5

Regression Analysis with Mental Distance as Dependent Variable

Independent variables: Overload, Optimism and Interaction term										
Model		Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	<i>p</i>	<i>F</i>	<i>R</i>	<i>R</i> ²	ΔR^2
		B	SE	Beta						
1	Summary						54,84*	0,40	0,16	-
	(Constant)	14,81	0,37		40,04	0,00				
	Overload	0,58	0,11	0,19	5,08	0,00				
	Optimism	-0,75	0,09	-0,33	-8,61	0,00				
2	Summary						37,54*	0,40	0,16	0,004
	(Constant)	14,87	0,37		40,07	0,00				
	Overload	0,59	0,11	0,20	5,17	0,00				
	Optimism	-0,76	0,09	-0,33	-8,73	0,00				
	Overload × Optimism	0,04	0,03	0,06	1,62	0,11				
Independent variables: Structure and Relationships, Optimism and Interaction term										
Model		Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	<i>p</i>	<i>F</i>	<i>R</i>	<i>R</i> ²	ΔR^2
		B	SE	Beta						
1	Summary						103,13*	0,51	0,26	-
	(Constant)	14,81	0,35		42,71	0,00				
	Structure/Relations	-0,37	0,04	-0,39	-10,53	0,00				
	Optimism	-0,53	0,09	-0,23	-6,32	0,00				
2	Summary						68,73*	0,51	0,26	0,001
	(Constant)	14,77	0,36		41,05	0,00				
	Structure and Relations	-0,37	0,04	-0,39	-10,52	0,00				
	Optimism	-0,53	0,09	-0,23	-6,26	0,00				
	Structure/Relations × Optimism	0,00	0,01	0,02	0,46	0,65				
Independent variables: Growth and Advancement, Optimism and Interaction term										
Model		Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	<i>p</i>	<i>F</i>	<i>R</i>	<i>R</i> ²	ΔR^2
		B	SE	Beta						
1	Summary						88,18*	0,48	0,23	-
	(Constant)	14,81	0,35		41,90	0,00				
	Growth/Advancement	-0,55	0,06	-0,35	-9,20	0,00				
	Optimism	-0,56	0,09	-0,25	-6,50	0,00				
2	Summary						58,70*	0,48	0,23	0,000
	(Constant)	14,80	0,37		40,35	0,00				
	Growth/Advancement	-0,55	0,06	-0,35	-9,19	0,00				
	Optimism	-0,56	0,09	-0,25	-6,46	0,00				
	Growth/Advancement × Optimism	0,00	0,01	0,01	0,16	0,87				

* $p < 0,01$

Table 5 shows that Overload and Optimism explained 16% of the variance in Mental Distance. However, the R^2 did not increase significantly when the interaction term between Overload and Optimism was entered. Also the interaction term was not statistically significant. Furthermore, Structure and Relations as job resources and Optimism explained 26% of the variance in Mental Distance, but the interaction term was not statistically significant and there was no increase in R^2 . Lastly, Growth and Advancement (as job resources) and Optimism explained 23% of the variance in Mental Distance, but the interaction term of these two variables was not statistically significant. These results show that job demands, job resources and optimism contribute directly to mental distance. However, optimism did not moderate the effects of job demands and job resources on mental distance.

The results of the multiple regression analysis with Vigour/Dedication as dependent variable are reported in Table 6. From the table it seems that Optimism explained 24% of the variance in Vigour/Dedication. However, the R^2 did not increase significantly when the interaction term between Overload and Optimism was entered. Also, the interaction term was not statistically significant. Furthermore, Structure/Relations as job resources and Optimism explained 36% of the variance in Vigour/Dedication. Also, the interaction between Structure/Relations and Optimism was statistically significant, resulting in an increase of 1% in R^2 . Lastly, Growth and Advancement (as job resources) and Optimism explained 39% of the variance in Vigour/Dedication, and the interaction term of these two variables is statistically significant. These results show that job resources and optimism contribute directly to mental distance, and that optimism interacted with job resources to affect vigour/dedication.

Table 6

Regression Analysis with Vigour/Dedication as Dependent Variable

Independent variables: Overload, Optimism and Interaction term										
Model		Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	<i>p</i>	<i>F</i>	<i>R</i>	<i>R</i> ²	ΔR^2
		B	SE	Beta						
1	Summary						90,03*	0,48	0,23	-
	(Constant)	39,33	0,34		116,64	0,00				
	Overload	0,00	0,10	0,00	0,04	0,97				
	Optimism	1,06	0,08	0,48	13,36	0,00				
2	Summary						60.60*	0,49	0,24	0,002
	(Constant)	39,29	0,34		116,05	0,00				
	Overload	-0,00	0,10	-0,00	-0,03	0,98				
	Optimism	1,07	0,08	0,49	13,42	0,00				
	Overload × Optimism	-0,03	0,02	-0,05	-1,25	0,21				
Independent variables: Structure and Relationships, Optimism and Interaction term										
Model		Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	<i>p</i>	<i>F</i>	<i>R</i>	<i>R</i> ²	ΔR^2
		B	SE	Beta						
1	Summary						169,52*	0,60	0,36	-
	(Constant)	39,33	0,31		128,11	0,00				
	Structure/Relations	0,34	0,03	0,38	11,04	0,00				
	Optimism	0,82	0,08	0,37	10,93	0,00				
2	Summary						116,02*	0,61	0,37	0,006*
	(Constant)	39,54	0,32		124,75	0,00				
	Structure and Relations	0,34	0,03	0,38	11,08	0,00				
	Optimism	0,80	0,08	0,37	10,74	0,00				
	Structure/Relations × Optimism	-0,02	0,01	-0,08	-2,47	0,01				
Independent variables: Growth and Advancement, Optimism and Interaction term										
Model		Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	<i>p</i>	<i>F</i>	<i>R</i>	<i>R</i> ²	ΔR^2
		B	SE	Beta						
1	Summary						189,00*	0,62	0,39	-
	(Constant)	39,33	0,30		130,77	0,00				
	Growth/Advancement	0,63	0,05	0,41	12,32	0,00				
	Optimism	0,79	0,07	0,36	10,82	0,00				
2	Summary						131,48*	0,63	0,40	0,011*
	(Constant)	39,59	0,31		128,00	0,00				
	Growth/Advancement	0,64	0,05	0,42	12,49	0,00				
	Optimism	0,77	0,07	0,35	10,61	0,00				
	Growth/Advancement × Optimism	-0,03	0,01	-0,10	-3,23	0,00				

* $p < 0,01$

DISCUSSION

The objective of this study was to test a model of work wellness for academic staff in higher education institutions in South Africa. The results showed that job demands contributed to burnout, while job resources contributed to work wellness (low burnout and high work engagement). Burnout mediated the relationship between job resources and organisational commitment. Dispositional optimism moderated the effects of a lack of job resources on work engagement. Work wellness and health contributed to life satisfaction.

A two-factor structure of work wellness was found in this study. The first factor represented burnout, consisting of incapability (exhaustion) and unwillingness (mental distance) to perform work. The second factor represented work engagement, consisting of capability (vigour) and willingness (dedication) to perform work. These factors further represented the energy dimension (ranging from exhaustion to vigour) and identification (ranging from mental distance to dedication) of wellness. The results in this study thus replicate previous findings (i.e., Jackson & Rothmann, 2004; Schaufeli & Bakker, 2004) suggesting that an a priori formulated model which assumes a 'core of burnout' dimension (exhaustion and mental distance) as well as an enlarged engagement dimension (vigour/dedication) fits the data best.

With regard to the organisational causes of burnout and engagement, two main factors, namely job demands and job resources were extracted by using exploratory factor analysis. Job demands included overload (i.e., having too much work to do; working under time pressure). Job resources included two categories, namely Growth and Advancement and Structure and Relationships. Growth and Advancement furthermore included aspects such as variety, learning opportunities, independence, remuneration and career opportunities, whereas structure and relations included relationship with colleagues, relationship with supervisor, role clarity, information, communication, participation and contact possibilities. These factors also corresponds with the two factors distinguished by Schaufeli and Enzmann (1998).

Results also showed that academics, compared to the normative data, experienced moderate to high levels of burnout. These results support previous findings of Jackson, Barnett, Stajich, and Murphy (1993). As far as the positive outcomes of wellness are concerned, academics experienced moderate levels of vigour/dedication. Also in line with previous studies (see Kinman, 2001; Kinman & Jones, 2003), academics experienced disturbingly high levels of

psychological ill-health, but seemed less troubled by physical ill-health. More positively and supporting findings of McInnis (1999), academics seemed to be highly committed to their organisations. Also, on average academics were generally satisfied with their lives.

In support of the COBE model (Schaufeli & Bakker, 2004), the analysis of Pearson correlations in this study showed that burnout (consisting of exhaustion and mental distance) was negatively related to work engagement (consisting of vigour/dedication). Results also showed that both exhaustion and mental distance are negatively related to job resources (including growth and advancement and structure and relationships), but positively related to job demands (overload). Furthermore both these burnout dimensions are negatively related to optimism, organisational commitment and life satisfaction and positively related to ill-health (physical and psychological). Regarding the positive outcome of wellness, vigour/dedication was significantly related to job resources (growth and advancement and structure and relations), organisational commitment, life satisfaction and optimism. Vigour/dedication was negatively related to both physical and psychological ill-health.

The structural model that was designed for the purpose of this study showed that job demands (overload) had a direct impact on burnout. In line with previous findings of Barkhuizen et al. (in press) one could thus argue academics are more likely to develop burnout because of high job demands. Moreover, the results also confirmed the general notion that burnout is a response to overload (see Maslach et al., 2001). Burnout further mediated the relationship between job demands and ill-health. This means that academics who experience high levels of workload are likely to develop high levels of burnout, which, in turn, may lead to health problems (see Barkhuizen et al., in press; Kahill, 1988; Lee & Ashforth, 1990). Taken together, work overload thus creates serious concerns for higher education, given its devastating impact on the psychological well-being of academics (Daniels & Guppy, 1994).

The structural analysis also showed that job resources have a direct impact on work wellness. Thus a lack of resources, including resources, need for growth and advancement and structure and relationships, increased academics' levels of exhaustion and cynicism. In combination and supporting both the Conservation of Resources theory (Hobfoll & Freedy, 1993) and Job Demands-Resources model (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001), it could be argued that academic staff in higher education institutions are likely to become victims of burnout when there is an increase in job demands without any corresponding increase in job

resources (see Barkhuizen et al., in press). On the other hand the availability of resources (i.e., structure and relationships) in this study predicted higher levels of work engagement among academics (Jackson & Rothmann, 2004; Schaufeli & Bakker, 2004).

In this study, work wellness (i.e., low burnout, high work engagement) mediated the relationship between job resources and organisational commitment. Thus, in line with the COBE model (Schaufeli & Bakker, 2004), it can be argued that the availability of job resources leads to higher work engagement of academics, which in turn enhance their levels of commitment towards the institution (see Blizzard, 2002; Roberts & Davenport, 2002). Clearly then, the availability of resources resulted in lower levels of burnout, which, according to Leiter and Maslach (1988), leads to higher levels of organisational commitment. Furthermore results showed that work wellness contributed to life satisfaction. These results support findings of Demerouti et al. (2000), namely that life satisfaction is inversely related to negative outcomes of wellness such as exhaustion and mental distance. Moreover, low levels of ill-health contributed to life satisfaction. Thus, satisfaction with one's health is a central factor influencing life satisfaction (Atchley, 1994; Krause, 1987).

This study used optimism as a possible moderator of the effects of organisational causes (i.e., job demands; job resources) on work wellness (burnout; work engagement). Results indicated that optimism contributed directly to exhaustion and mental distance. Thus, in line with Riolli and Savicki (2003), low levels of optimism among academics in the face of high job demands and a lack of resources are likely to contribute to academics experiencing exhaustion and mental distance. Furthermore, in contrast with Barkhuizen et al. 's (in press) findings, optimism in this study did not moderate the effects of high job demands and a lack of resources on burnout (exhaustion and mental distance). Results, however, showed that optimism interacted with job resources to affect work engagement (vigour/dedication). Thus, academics who perceive a lack of emotional support in the workplace, but are highly optimistic, could seek emotional support in other areas of life and are therefore more work engaged (Gopal, 2005).

In conclusion, the results of this study support the COBE model (Schaufeli & Bakker, 2004), and JD-R model (Bakker, Demerouti, & Schaufeli, 2003), which assumes two psychological processes, namely an energy-driven and motivation-driven process. In the first *energy-driven* process, job demands (overload) were the most important predictors of burnout, which in turn

were related to health problems. In the second *motivation-driven* process, job resources (growth and advancement; structure and relationship) were the main predictors of work wellness (i.e., low burnout; high work engagement) which in turn were related to organisational commitment (see Bakker et al. 2003) and life satisfaction (see Demerouti et al. 2000). Job resources may play either an intrinsic motivational role (by fostering employee's growth, learning and development), or they may play an extrinsic motivational role (by being instrumental in achieving work goals).

The present study has certain limitations. The research was a cross-sectional survey design. As a result, no causal inferences could be drawn, even though advanced analytical procedures such as structural equation modelling techniques were employed. Another limitation is that the measurement of this model's variables was based solely on self-reports. This could lead to “method variance” or “nuisance” (Schaufeli, Enzmann, & Girault, 1993). Furthermore, the process underlying optimism and life satisfaction has not been studied. Identifying the cognitive, behavioural and social processes that support optimism will provide ways of understanding flexible problem solving and suggest ways of teaching skills to improve human strengths – rather than yield a general injunction to be optimistic (Aspinwall & Staudinger, 2003).

RECOMMENDATIONS

Given the accumulating evidence of job demands (overload) and its devastating impact on academics, higher education should reach a stage of intervention increasing the levels of wellness of academics. The results suggest that interventions aimed at decreasing the workload in academic work life should cause a decrease in experienced burnout and enhance the physical and psychological well-being of academics. Furthermore, interventions aimed at increasing job resources can enhance the academic's wellness and lead to higher levels of work engagement, life satisfaction and organisational commitment. In this context, specific interventions should be directed at work relationships, rewards, redesign of job tasks to enhance task variety, and a more equitable system of reward distribution.

Secondary-level interventions can be implemented to prevent employees who are already showing signs of stress from getting ill and to increase their coping capacity. Typical examples of this strategy would include teaching academics skills such as cognitive

restructuring, time management, conflict resolution techniques and coping strategies to enhance their human strengths. Furthermore, tertiary-level stress management interventions are concerned with the rehabilitation of individuals who suffered ill-health or reduced well-being because of strain in the workplace.

Longitudinal research regarding work wellness of academics in South Africa should be undertaken. More research is needed to identify cognitive, behavioural and social processes underlying optimism and life satisfaction. To conclude, based on the results of the study, future studies should make use of larger and more representative samples.

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CHAPTER 6

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

The purpose of this chapter is to draw conclusions from the four articles which formed part of this study. Conclusions are drawn in accordance to the research objectives. Furthermore, limitations of this study are discussed and recommendations for the organisation are made. Finally, research opportunities that emanate from this research are presented.

6.1 CONCLUSIONS

Next, the conclusions of the empirical studies are made.

Burnout of academics

The first objective of this study were to assess the psychometric properties of an adapted version of the Maslach Burnout Inventory-General Survey (MBI-GS) for academic staff in South African higher education institutions and to investigate differences between the burnout levels of the different demographic groups.

Based on the recommendations of Schaufeli (2003), this study used an adapted version of the MBI-GS (including the depersonalisation sub-scale of the MBI-ES) to measure burnout among academics (a so-called helping profession). In support of previous findings of Jackson and Rothmann (2004), results revealed a three-factor model for burnout, consisting of exhaustion, mental distance (cynicism and depersonalisation) and professional efficacy. Clearly then, and opposed to Salanova, Llorens, García-Renedo, Burriel, Bresó, and Schaufeli, in press), burnout is not characterised by separate cynicism and depersonalisation dimensions - instead these two dimensions loaded onto one burnout construct, labelled mental distance. From this point of view it is clear that academics, on the one hand, can have negative, distinct attitudes towards their students, colleagues and treat them as objects (depersonalisation), and on the other hand develop callous attitudes towards their work, to such extent that they might lose interest in research or neglect to prepare adequately for class (Seldin, 1987; Singh, Mishra, & Kim, 1998).

Consistent with previous studies (i.e., Rothmann & Jansen van Vuuren, 2002; Rothmann & Malan, 2002; Schutte, Toppinen, Kalimo, & Schaufeli, 2000; Storm & Rothmann, 2003) results showed that item 13 ("I just want to do my job and not be bothered") loaded on the wrong factor. Thus, based on both conceptual and empirical grounds, this item was excluded from testing the construct validity and internal consistency of the MBI-GS. According to Schutte et al. (2000), problems might be caused by the ambivalent nature of the item. A high score may indicate disengagement and social isolation by removing oneself from contact with others at work. A higher score indicates strong motivation and engagement. Nevertheless, exploratory factor analysis showed that the adapted version of the MBI-GS is equivalent for Afrikaans and English language groups, and therefore the mean score of these groups can be compared to other analyses. Furthermore, reliability analysis confirmed sufficient internal consistency with the three subscales exceeding the critical Cronbach alpha value of 0,70.

Based on these results, the conclusion can be made that the adapted version of the MBI-GS is a valid and internally consistent measurement of burnout in the sample of academics. In line with Schaufeli (2003), it can be argued that cynicism and depersonalisation contribute to mental distance, which together with exhaustion constitute the basic hallmarks of the burnout syndrome. Moreover, this measurement allows for the researchers simultaneously to capture the academic's attitude towards both his/her job (cynicism) as well as towards the people with whom they interact i.e., students, and colleagues (depersonalisation).

Finally, results also showed that the burnout levels of academics differ when taking their age, marital status and working hours into account. In support of Byrne's (1991) results, younger academics aged between 20 and 39 years experienced higher levels of exhaustion and lower levels of professional efficacy than their older colleagues aged between 60 and 69 years. Divorced academics reported higher levels of exhaustion than academics who were married, had remarried or were separated. These results support previous findings of Maslach and Jackson (1985). Results also showed that academics working for more than 51 hours a week, were more exhausted than those working for less than 20 hours a week. In this study, no significant differences were obtained for gender, academic rank and qualifications.

Work engagement of academics

The second objective of this study was to assess the psychometric properties of the Utrecht Work Engagement Scale (UWES) for academic staff of different language groups in South African higher education institutions, and to investigate differences between work engagement of the different demographic groups.

Exploratory factor analysis was used to assess a factorial structure that best represents the UWES. Firstly, the construct equivalence of the UWES was assessed for different academic language groups. The results showed that work engagement, as measured with the UWES is a two-factor construct consisting of Vigour/Dedication, and Absorption. These results support the findings of Naudé and Rothmann (2004), but contradicts findings of other studies (i.e., Schaufeli & Bakker, 2003) suggesting the superiority of a three-factor structure for work engagement. The results however, indicated that construct equivalence of the UWES was acceptable for the two language groups. One scale, namely Vigour/Dedication showed acceptable internal consistency. This again raises the question of whether absorption plays a less central role in the work engagement concept than vigour and dedication. These results thus partially support the hypotheses that work engagement as measured by the UWES, is equivalent for Afrikaans- and English-speaking academics at South African higher education institutions and shows internal consistency.

Although exploratory factor analysis with target rotations showed acceptable construct equivalence for two language groups (Afrikaans and English), some undesirable psychometric characteristics were associated with several items of the UWES. In particular, three items (9, 12 and 15) were problematic. More specifically, Item 9 ("I feel happy when I am engrossed in my work") is loaded on different factors for Afrikaans- and English-language groups. It is possible that the participants did not understand the word "engrossed". Item 12 ("In my job, I can continue working for very long periods of time") was supposed to measure Vigour, but loaded on Absorption. However, when closely reviewing this item, it might as well pass for an Absorption item. Absorption as such indicates a difficulty of the individual to distance him/herself from the job and this item ambiguously seems to imply the same. Item 15 ("I am very resilient, mentally in my job") loaded on different factors for both language groups. The word "resilient" might have been misunderstood.

Based upon both conceptual and empirical grounds, item 9, 12 and 15 were deleted from the original 15-item theoretical model of engagement (as measured by the UWES). In order to obtain a more representative factor structure, item 20 ("In my job I can comfortably deal with stressful situations and I easily recover from such situations") was added. Target rotation on the 13-item UWES resulted in acceptable Tucker's phi coefficients, which indicate acceptable construct equivalence of the two factors for Afrikaans and English academics. It is noteworthy that previous South African studies also found problematic loadings on item 9 (Naudé & Rothmann, 2004) and item 12 (Jackson & Rothmann, in press).

It is believed that this confusing state of affairs regarding the UWES does not reflect weaknesses inherent to the instrument, but is rather due to more general factors. First, the UWES is a recently constructed measuring instrument. Therefore, relatively few studies have critically reviewed its psychometric properties. Secondly, the UWES is an instrument that was originally constructed from the data based on samples of individuals in the Netherlands. Despite the few studies using the UWES in South Africa (i.e., Coetzer & Rothmann, 2004; Jackson & Rothmann, in press; Naudé & Rothmann, 2004; Storm & Rothmann, 2003), more research regarding work engagement in different occupational settings is still required.

Regarding demographic variables, no differences were found between the engagement levels of academics of different ages and gender. However, statistically significant differences were found as far as the work engagement of groups based on job levels and qualifications was concerned. Further analysis of the data revealed that practically significant differences existed between the subscales of the UWES and all these variables.

Professors experienced significantly higher levels of absorption than junior lecturers. This is in line with the findings of Winter, Taylor and Sarros (2000), who suggested that professors tend to be more attached to their jobs than academics in lower positions. Furthermore, linking up with these results, academics in possession of a doctor's degree were also more absorbed in their jobs than those with a four-year degree or honours. These results support the findings of Gilbert (2001) indicating that higher educated employees are more likely to be absorbed in their work. Further analysis of results of t-tests revealed no significant differences between the work engagement of males and females. The results are contrary to findings mentioned in the Test Manual of the UWES (Schaufeli & Bakker, 2003) indicating that men tend to score slightly higher on dedication than females

Occupational stress of academic staff

The third objective of this study was to assess indicators of occupational stress for academic staff in South African higher education institutions, to analyse differences between the occupational stress levels of different demographic groups, and to investigate whether organisational commitment moderates the effects of occupational stress on ill-health.

Results in this study showed that, compared to the normative data, academics experienced high levels of occupational stress relating to pay and benefits, overload and work-life balance. These sources of stress further encompass the main causes of stress in universities identified in previous research (i.e., Abouserie, 1996; Association of University Teachers, 2003; Gillespie, Walsh, Winefield, Dua, & Stough, 2001; Kinman, 1998; Winefield, Gillespie, Stough, Dua, & Hapuararchchi, 2002).

With regard to overload, academics felt particularly stressed by the time constraints placed upon them. Consequently, and in line with Kinman and Jones (2003), academics perceive that they do not perform their jobs (i.e., research and teaching) as well as they would like to. Results further showed that academics are set unrealistic deadlines to perform unmanageable workloads, which according to Gillespie et al. (2001), are likely to increase their stress levels. Moreover, findings also highlighted the significant impact that occupational stress was having on the academics' family life. Consistent with the findings of Kinman and Jones (2003), academics in this study indicated that they worked longer hours than they chose to or want to and often during weekends. Ultimately, these two factors contributed to the high levels of occupational stress academics experienced regarding work-life balance.

In comparison to the normative data, academics were less troubled by work relationships, job security, control, resources and communication and job characteristics. In line with previous studies, it seems that academics still have a considerable degree of control over their jobs (Kinman, 1998) and do not have problems dealing with, for instance, difficult students as part of their overall job (Tytherleigh, Webb, Cooper, & Ricketts, 2005). Given the fact that job characteristics are a predictor of job satisfaction, one can argue in support of previous findings, that academics are relatively satisfied with their jobs in spite of the perceived stressors and strains (Doyle & Hind, 1998; Watts et al. 1991). However, in contrast to other studies (Gillespie et al., 2001; Tytherleigh et al., 2005), academics did not experience high

levels of stress relating to job security. This is quite remarkable since tertiary education institutions in South Africa are continually being faced with major changes such as reframing, restructuring, revitalisation and renewal (Viljoen & Rothmann, 2002).

It is noteworthy, however, that the Cronbach alpha coefficient for job security ($\alpha = 0,60$), resources and communication ($\alpha = 0,66$) and job characteristics ($\alpha = 0,61$) indicated unacceptable reliability. Therefore the authors conducted a simple principal component analysis on the 37 stressor items to determine a more reliable factor structure for use in differentiating the stress levels of the various demographic groups. The results showed that two reliable factors could be extracted namely, organisational resources and job demands. These two factors also correspond with the two factors distinguished by Spielberger, Vagg, and Wasala (2003 ‘;’ i.e., job demands and the level of support provided by supervisors, co-workers and organisational policies and procedures).

Results showed that academics with a five- to seven-year degree and associate professors in general, experienced the highest level of job demands. In this regard, Osipow, Doty and Spokane (1985) suggested that as people age and gain in experience and status within the organisation, they appear to take on additional responsibilities and consequently experience an increase in job demands. Dua (1994) for example found that staff above senior level are more stressed because of higher workloads. Furthermore, Winter et al. (2000) found that associate professors are more likely to experience role overload than academics employed at lower ranks. Role overload again has been found to be a salient stressor in academic work-life (Fisher, 1994; Lease, 1999). Regarding qualification, these results do not support the findings of Dua (1994) that academics with higher levels of qualifications are more likely to experience stress than those with lower qualifications. Consistent with previous studies (i.e., Abouserie, 1996; Gmelch & Burns, 1994; Dua, 1994) no significant differences regarding occupational stress were found between male and female academics.

The wealth of literature is also quite clear about the devastating impact of stress on the academic. In this study, academics experienced extremely high levels of psychological ill-health (sten score of ten). In line with Gillespie et al. (2001), factors such as constant irritability, avoiding contact with other people, feeling unable to cope and feeling or becoming angry with others too easily were some of the main factors contributing to

academics' low levels of psychological well-being. Although academics had average scores on physical ill-health, they were troubled with sleep loss and muscular tension/ aches and pains (see Winefield et al. 2002).

Female academics reported higher levels of physical ill-health than male academics. According to Blix, Cruise, Mitchell and Blix (1994), women working in higher education experience more stressors and strains than their male counterparts as a result of a lack of role models and increased role conflict as they endeavour to balance roles at work and at home. Hayes (1986) for instance noted that the demands on women's time coupled with role conflicts and the absence of mentors negatively affect their health, work and relationships. Based on the findings of Osipow et al. (1985), results in this study showed that older academics (60–69 years) were less troubled by physical and psychological ill-health problems. This may be because as people get older they become more experienced and more worldly-wise and consequently adopt more rational cognitive coping mechanisms than younger academics (Dua, 1994; Osipow et al. 1985). No significant differences were found regarding ill-health problems for academics with different academic ranks.

Regardless of the stressors and strains reported in this study, academics still experienced high levels of commitment both from and towards the organisation. These results partially support the findings of another South African study (Coetzee & Rothmann, 2005), indicating that university staff are likely to be committed to their organisation, but contradict the findings of Tytherleigh et al. (2005) suggesting that all university staff perceived low commitment both from and to the organisation. However, results from a multiple regression analysis in this study showed that organisational commitment did not moderate the effects of occupational stress (job demands and a lack of resources) on ill-health (physical and psychological).

Work wellness of academic staff

The final objective of this study was to test a model of work wellness for academic staff in higher education institutions in South Africa.

A two-factor structure of work wellness was found in this study. The first factor represented burnout, consisting of incapability (exhaustion) and unwillingness (mental distance) to

perform work. The second factor represented work engagement, consisting of capability (vigour) and willingness (dedication) to perform work. These factors further represented the energy dimension (ranging from exhaustion to vigour) and identification (ranging from mental distance to dedication) of wellness. The results in this study thus replicate previous findings (i.e., Jackson & Rothmann, 2004; Schaufeli & Bakker, 2004) suggesting that an a priori formulated model which assumes a 'core of burnout' dimension (exhaustion and mental distance) as well as an enlarged engagement dimension (vigour/dedication) fits the data best.

With regard to the organisational causes of burnout and engagement, two main factors, namely job demands and job resources were extracted by using exploratory factor analysis. Job demands included overload (i.e., having too much work to do; working under time pressure). Job resources included two categories, namely Growth and Advancement and Structure and Relationships. Growth and Advancement furthermore included aspects such as variety, learning opportunities, independence, remuneration and career opportunities, whereas structure and relations included relationship with colleagues, relationship with supervisor, role clarity, information, communication, participation and contact possibilities. These factors also corresponds with the two factors distinguished by Schaufeli and Enzmann (1998).

Results also showed that academics, compared to the normative data, experienced moderate to high levels of burnout. These results support previous findings of Jackson, Barnett, Stajich, and Murphy (1993). As far as the positive outcomes of wellness are concerned, academics experienced moderate levels of vigour/dedication. Also in line with previous studies (see Kinman, 2001; Kinman & Jones, 2003), academics experienced disturbingly high levels of psychological ill-health, but seemed less troubled by physical ill-health. More positively and supporting findings of McInnis (1999), academics seemed to be highly committed to their organisations. Also, on average academics were generally satisfied with their lives.

In support of the COBE model (Schaufeli & Bakker, 2004), the analysis of Pearson correlations in this study showed that burnout (consisting of exhaustion and mental distance) was negatively related to work engagement (consisting of vigour/dedication). Results also showed that both exhaustion and mental distance are negatively related to job resources (including growth and advancement and structure and relationships), but positively related to job demands (overload). Furthermore both these burnout dimensions are negatively related to optimism, organisational commitment and life satisfaction and positively related to ill-health

(physical and psychological). Regarding the positive outcome of wellness, vigour/dedication was significantly related to job resources (growth and advancement and structure and relations), organisational commitment, life satisfaction and optimism. Vigour/dedication was negatively related to both physical and psychological ill-health.

The structural model that was designed for the purpose of this study showed that job demands (overload) had a direct impact on burnout. In line with previous findings of Barkhuizen, Rothmann, & Tytherleigh (in press) one could thus argue academics are more likely to develop burnout because of high job demands. Moreover, the results also confirmed the general notion that burnout is a response to overload (Maslach, Schaufeli, & Leiter, 2001). Burnout further mediated the relationship between job demands and ill-health. This means that academics who experience high levels of workload are likely to develop high levels of burnout, which, in turn, may lead to health problems (see Barkhuizen et al., in press; Kahill, 1988; Lee & Ashforth, 1990). Taken together, work overload thus creates serious concerns for higher education, given its devastating impact on the psychological well-being of academics (Daniels & Guppy, 1994).

The structural analysis also showed that job resources have a direct impact on work wellness. Thus a lack of resources, including resources, need for growth and advancement and structure and relationships, increased academics' levels of exhaustion and cynicism. In combination and supporting both the Conservation of Resources theory (Hobfoll & Freedy, 1993) and Job Demands-Resources model (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001), it could be argued that academic staff in higher education institutions are likely to become victims of burnout when there is an increase in job demands without any corresponding increase in job resources (see Barkhuizen et al., in press). On the other hand the availability of resources (i.e., structure and relationships) in this study predicted higher levels of work engagement among academics (Jackson & Rothmann, 2004; Schaufeli & Bakker, 2004).

In this study, work wellness (i.e., low burnout, high work engagement) mediated the relationship between job resources and organisational commitment. Thus, in line with the COBE model (Schaufeli & Bakker, 2004), it can be argued that the availability of job resources leads to higher work engagement of academics, which in turn enhance their levels of commitment towards the institution (see Blizzard, 2002; Roberts & Davenport, 2002). Clearly then, the availability of resources resulted in lower levels of burnout, which,

according to Leiter and Maslach (1988), leads to higher levels of organisational commitment. Furthermore results showed that work wellness contributed to life satisfaction. These results support findings of Demerouti et al. (2000), namely that life satisfaction is inversely related to negative outcomes of wellness such as exhaustion and mental distance. Moreover, low levels of ill-health contributed to life satisfaction. Thus, satisfaction with one's health is a central factor influencing life satisfaction (Atchley, 1994; Krause, 1987).

This study used optimism as a possible moderator of the effects of organisational causes (i.e., job demands; job resources) on work wellness (burnout; work engagement). Results indicated that optimism contributed directly to exhaustion and mental distance. Thus, in line with Riolli and Savicki (2003), low levels of optimism among academics in the face of high job demands and a lack of resources are likely to contribute to academics experiencing exhaustion and mental distance. Furthermore, in contrast with Barkhuizen et al. 's (in press) findings, optimism in this study did not moderate the effects of high job demands and a lack of resources on burnout (exhaustion and mental distance). Results, however, showed that optimism interacted with job resources to affect work engagement (vigour/dedication). Thus, academics who perceive a lack of emotional support in the workplace, but are highly optimistic, could seek emotional support in other areas of life and are therefore more work engaged (Gopal, 2005).

In conclusion, the results of this study support the COBE model (Schaufeli & Bakker, 2004), and JD-R model (Bakker, Demerouti, & Schaufeli, 2003), which assumes two psychological processes, namely an energy-driven and motivation-driven process. In the first *energy-driven* process, job demands (overload) were the most important predictors of burnout, which in turn were related to health problems. In the second *motivation-driven* process, job resources (growth and advancement; structure and relationship) were the main predictors of work wellness (i.e., low burnout; high work engagement) which in turn were related to organisational commitment (see Bakker et al. 2003) and life satisfaction (see Demerouti et al. 2000). Job resources may play either an intrinsic motivational role (by fostering employee's growth, learning and development), or they may play an extrinsic motivational role (by being instrumental in achieving work goals).

6.2 LIMITATIONS

Firstly, the present study adopted a cross-sectional research design which allows a relationship between variables to be identified at one point only. Consequently, more complex forms of non-recursive linkages could not be examined. At best, these relationships could only be analysed and described. Therefore the relationships in the present study serves only to set up certain patterns of the different variables being studied. Moreover, reference to causal relationships, as suggested in this study, would be incorrect. It is therefore possible that the independent variables in the present study could be classified as symptoms of burnout, work engagement and occupational stress, rather than precursors. However, a cross-sectional design is the most appropriate design for the validation of the MBI and the UWES.

Secondly, the present study is based on self-reports like the majority of burnout and stress studies (Schaufeli & Enzmann, 1998). Self-report data might be contaminated by common method variance, because both independent and dependent variables are based upon one source of information, i.e., the participants (Spector & Jex, 1991). However, in general, a fairly high consistency exist between the objective and subjective ratings of variables such as the ones used in the present study (Spector, 1987). Similarly, other researchers have demonstrated that even if interactions between the constructs are found, they pose no real threat with regard to the findings obtained (Dollard & Winefield, 1998).

A third limitation to the present study was the sample size. From the 2000 academics surveyed only 28,33% responded. This might have significant limitations in terms of the generalisation of the findings to the total study population. Future studies could benefit in terms of a stratified random-sample design, which would ensure sufficient representation of the different groups in the total population.

6.3 RECOMMENDATIONS

6.3.1 Recommendations to solve the research problems

Based on the results of this study, it is recommended that Cynicism should be included to the three MBI-burnout dimensions when studying human services, and to include Depersonalisation in addition to the three MBI-GS dimensions when studying non-human

services occupations. However, it is strongly recommended that item 13 should be omitted when administering the questionnaire.

Regarding work engagement, a combined management and educational approach that builds interventions encouraging work engagement should be utilised. The Engagement intervention enhances work life and should successfully promote the well-being of academic staff. Interventions may in the first place be directed at either the work situation or the coping capacity of the employee. Work-orientated interventions, on the one hand, can be used to improve the fit between the individual and the workplace, and worker-oriented interventions, on the other hand, may promote learning among employees to deal more effectively with experienced stress or to modify their appraisal of a stressful situation so that the perceived stress threats are reduced.

With the accumulated evidence that burnout and occupational stress lead to adverse health outcomes, higher education institutions should reach a stage of intervention (Kompier & Kristensen, 2001) for increasing the levels of wellness of academics. These authors further distinguish between primary-, secondary- and tertiary-level interventions. Primary-level interventions are concerned with modifying or eliminating the stressors inherent to the workplace in order to adapt the environment to better fit the individual. In the academic context, more equitable reward systems may reduce the high levels of stress academics experience regarding pay and benefits. Since job demands (overload) also play a central role in the process that might lead to stress, burnout and health problems, reducing overload seems warranted. In line with Abouserie (1996), it is suggested that more research assistants and tutors be recruited to help in doing research and teaching and thus ease the time constraints and other pressures on lecturers. It is furthermore believed that a reduction in job demands will also help academics to achieve a more healthy balance between their work and home domains.

Secondary-level interventions can be implemented for academics who are already showing signs of stress and burnout from getting sick and in order to increase their coping capacity. It may be useful to organise stress management courses for academic staff to introduce them to more appropriate ways of managing stress. Cognitive structuring, time management and conflict resolution would be applicable in this context. Tertiary-level interventions are concerned with the rehabilitation of individuals who have suffered ill-health or reduced well-

being as a result of stress in the workplace. Given the extremely high score of psychological ill-health and also suicide ideation among academics, such interventions are warranted.

Finally, although there is an increasing creation of wellness programs in higher education, there is no matching increase in the overall effectiveness of these actions. In general, the first step in succeeding with the enhancement of work wellness is to create and stimulate awareness at all levels of the organisation regarding the image of the work wellness phenomenon as a portrait by employees of this specific institution. Of importance will be the definition of wellness, its effects and implications, the causes and symptoms of unwellness, as well as the processes and procedures for enhancing employee wellness. Unconditional buy-in from both management and employees is of the utmost importance in order to make such a programme and planned interventions viable and not only a window-dressing exercise. Skills should be expanded to enable both management and employees to identify wellness and unwellness, and to take proactive action not only to prevent undue harm to both the employee and the organisation, but also to promote work wellness in general.

6.3.2 Recommendations for future research

According to Schaufeli (2003), a grand unifying theory of burnout will always remain a dream, simply because it is too complex and multi-faceted. As yet, theoretical explanations on individual and organisational level that can be drawn upon systematic empirical evidence are almost absent. Thus, future research should be directed towards these two areas. Especially on individual level, a need exists for the development of clinical guidelines concerning burnout to enable comparison and identification according to national guidelines. Schaufeli and Van Dierendonck (1995) for instance found that levels of burnout differed among national samples, therefore comparisons without norms in other countries are impossible. Linking up with this, it is suggested that the measurement of burnout (MBI), because of its limited clinical scope, should be supplemented by a scale assessing cognitive weariness. On organisational level, the study of burnout seems imperative from a research point of view, given the devastating negative impacts it has in terms of absenteeism, job turnover, poor performance. Theoretically, future research should also focus on the new academic burnout conceptualisation to verify current findings.

Based on the results obtained from this study, it is strongly recommended that the MBI be translated into the 11 official languages of South Africa. More specifically, future research should also focus on using both positively and negatively phrased items to measure burnout in academia. Recent research demonstrated that the psychometric value of the MBI-GS could be enhanced by including positively phrased items from the Disengagement Scale of the Oldenburg Burnout Inventory (Demerouti, Bakker, Vardakou, & Kantas, 2003). Linking up with this, exploratory factor analysis could be used to test the construct equivalence of the new academic burnout conceptualization for different language groups in South Africa. In contrast with Byrne's (1991) remark that exploratory factor analysis may show some weaknesses, the present study obtained satisfactory results when using this factor analysis. Furthermore, the unique multicultural context of South African society provides excellent opportunities for testing the cross-cultural utility of the MBI. Therefore, it is strongly recommended that more future research should be directed toward exploring burnout among different race groups.

More research is needed regarding the conceptualization and measurement of work engagement. With specific reference to the measurement of work engagement, further construct validity research is needed to establish the factorial validity of the UWES more fully. Also, based on the results of this study, it is strongly recommended that some of the UWES items be re-formulated. Specific problems encountered with the items included were that metaphors had been used and that some English words might have been difficult to understand. In particular, Van de Vijver and Leung (1997) suggest that metaphors should be avoided in questionnaires. Given the 11 official languages in South Africa, English is a second language for most people and consequently the use of metaphors and uncommon words such as "resilience", "immersed" and "engrossed" in the items could have contributed to misunderstandings. Moreover, if the UWES is going to be used, items 9, 12 and 15 should be omitted from the questionnaire in a multicultural context or rewritten in a more acceptable South African language format, due to semantic problems.

Given the pervasive nature of occupational stress among academics in higher education institutions, future research in the area of occupational stress is likely to be more relevant if it is more intervention-driven. Soon stress will become an identified hazard in the working environment alongside excessive noise levels and exposure to noxious substances. It is, and will increasingly become, the responsibility of employers to ensure that, wherever reasonably

practicable, they remove or reduce stressors in the working environment and provide employees with training in protective mechanisms against inherent stressors. No longer will it be sufficient to provide treatment and rehabilitation for employees already displaying strain and reflecting the absence of a comprehensive approach to prevention and protection. Furthermore, stress-reduction approaches in the workplace could be improved by implementing a theoretical model. The ASSET model in particular has been used in a wide variety of occupations including health care, transportation and now academia. However, further refining and testing of the ASSET is needed, especially within the South African context. Cooper, Dewe, and O'Driscoll (2001) suggested that in order to minimise the negative spin-offs of occupational stress, it is important to take a holistic approach to resolve the stress and strain suffered by the employee.

With Occupational Health Psychology now moving towards a positive psychological paradigm, more research should be directed towards “positive concepts” such as optimism. In particular more research is needed to identify the cognitive, behavioural, and social processes that underlie dispositional optimism. Previous research has shown optimism to be a powerful personal variable related to outcomes in organisational settings (see Riolli & Savicki, 2003). Clearly then, further research on this construct in organisational settings is warranted.

Research on life-satisfaction quintupled in the 1980s (Diener, Suh, Lucas & Smith, 1999). This area has clearly become a major factor in the assessment of the quality of academic life (Sorcinelli & Near, 1989) and can be used as a marker for university management evaluating the impact of efforts to improve academic work life. Although the measure of life satisfaction in this study was firmly rooted in theory, its internal consistency was rather limited. Future studies therefore should ideally include more items to measure the concept of overall life satisfaction, since a more reliable measure can be utilised to provide more insight in the crossover of work-related health problems to general wellness. Moreover, it is recommended that future studies of life satisfaction should adhere to the multi-cultural context of the South African workforce. Previous South African studies (see Westaway, Maritz, & Golele, 2003) revealed that the concept of life satisfaction in Blacks tends to show greater satisfaction with their lives than is detected in Whites (Moller, 2001).

More holistic and integrated models of wellness are needed in South Africa. The present study tried to form a picture of a balanced view on employee wellness by including the two antitheses, namely burnout and engagement, in a comprehensive wellness audit. Currently, there is a considerable lack of information on the prevalence and dynamics of work engagement, in stark contrast to the knowledge of pathological constructs such as burnout and occupational stress. Future studies should thus be directed to examine these psychological constructs and their relationships to wellness adherence. Furthermore, the results in this study underscore the importance of using proactive strategies that results in academics moving in a positive direction towards striving for ultimate wellness. In terms of future research, the development of causal models of work wellness for academics in South Africa, can make a valuable contribution not only to positive psychology, but further refine and increase our understanding of work wellness.

Finally, based on the criticism of Schaufeli and Enzmann (1998) relating to cross-sectional designs, it is recommended that future studies should used either experiments of longitudinal studies where possible. Longitudinal studies, although much more difficult to achieve, are crucial for three reasons. Firstly, it might further our understanding of the development of stress and burnout over time. Secondly, longitudinal studies can be useful not only to validate hypothesised causal relationships between antecedents and possible consequences of constructs such as burnout, engagement and occupational stress, but also to expand our knowledge in terms of the inclusion of other variables in the study of human wellness. Finally, longitudinal studies would be useful to track the possible differential effects of moderators at different phases of stress and burnout.

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