BURNOUT AND WORK ENGAGEMENT OF EMPLOYEES IN AN INSURANCE COMPANY

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REMARKS

The reader is reminded of the following:

- The references and the editorial style 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 (Potchefstroom Campus) use APA style in all scientific documents as from January 1999.

- The thesis is submitted in the form of three research articles. The name of the promoter appears on each research article as it was submitted for publication in national and international journals.

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SUMMARY

Topic: Burnout and work engagement of employees in an insurance company.

Key terms: Burnout, work engagement, work wellness, health, occupational stress, insurance industry, validity, reliability, job demands, job resources, commitment, optimism, strain

Continuous changes along with the increased pressure to perform may result in feelings of distrust, strain in interpersonal relations, psychological strain, fatigue and tension, all affecting the well-being of employees. Tracking and addressing the effectiveness of employees in the work context in areas that could impact on the standard of their services is important. Burnout and work engagement are specific focus areas in this regard. To measure burnout and work engagement, it is important to use reliable and valid instruments. However, there is a lack of empirical research systematically investigating burnout and work engagement in South Africa, as well as serious limitations, including poorly designed studies, a lack of sophisticated statistical analyses and poorly controlled studies. Furthermore, South Africa is a multicultural society and therefore, when burnout and work engagement measures are applied to different cultural groups, issues of equivalence become important.

The objectives of this study were to standardise the MBI-GS and UWES for employees in an insurance company and to determine equivalence for each instrument, to determine the occupational stressors experienced and demographic differences in terms of the experience of occupational stressors and to test a causal model of work wellness consisting of burnout, work engagement, job demands, job resources, health, optimism and intention to leave.

The research method for each of the three articles consists of a brief literature review and an empirical study. A cross-sectional survey design was used. An availability sample ($N = 613$) from employees in an insurance company was taken. The Maslach Burnout Inventory – General Survey (MBI-GS), Utrecht Work Engagement Scale (UWES), Life Orientation Test – Revised (LOT-R), An Organisational Stress Screening Tool (ASSET), Job Characteristics Scale (JCS) and a biographical questionnaire were administered. The statistical analysis was carried out with the help of the SAS program and AMOS. The statistical methods utilised in the three articles consisted of descriptive statistics, Cronbach alpha coefficients, inter-item

correlations, Pearson product-moment correlation coefficients and structural equation modelling methods. One-way analysis of variance (ANOVA) was also utilised to determine differences between the subgroups of the sample.

Structural equation modelling confirmed a three-factor model of burnout, consisting of exhaustion, cynicism and professional efficacy. The three-factor model of work engagement represented the data quite well after certain items had been replaced due to semantic differences. The MBI-GS and UWES both showed acceptable internal consistencies. Construct equivalence for different language groups were confirmed for the MBI-GS and UWES.

The continuous exposure to things like change, competitiveness and rivalry may result in feelings of stress. Stress may have a negative impact on the health and well-being of individuals. Physical and psychological ill health was found to be the major outcome of stress for employees. Commitment moderated the effect of occupational stress on ill health. Specific occupational stressors indicated in an insurance company had to do with performance management, job characteristics, redundancy of skills and remuneration. Biographical factors (i.e. department, level, years' experience) had an impact on the experience of occupational stressors.

A one-factor, four-factor and three-factor wellness model was tested. The three-factor model, comprising exhaustion and cynicism loading on burnout and a combined work engagement (vigour and dedication) dimension, provided the best fit with the data. The causal model of work wellness provides support for the COBE model, assuming job demands and job resources. A lack of job resources increases the levels of burnout of employees, as well as the intention to leave the organisation. The availability of job resources increases the levels of work engagement. Employees who experience excessive workloads are likely to develop high levels of burnout which, in turn, may lead to health problems.

Recommendations for future research were made.

OPSOMMING

Onderwerp: Uitbranding en werksbegeestering van werknemers in 'n versekeringsmaatskappy.

Sleutelterme: Uitbranding, werksbegeestering, werkswelstand, gesondheid, beroepstressors, versekeringsbedryf, geldigheid, betroubaarheid, werkseise, werkshulpbronne, toewyding, optimisme, druk

Voortdurende veranderinge tesame met die toenemende druk om te presteer kan lei tot gevoelens van wantroue, druk in interpersoonlike verhoudinge, psigologiese druk, uitputting en spanning, wat weer die gesondheid van werknemers affekteer. Dit is belangrik om werknemers se effektiwiteit in die werkskonteks na te vors en daarmee te handel op gebiede wat 'n uitwerking het op die standaard van hul dienste. Spesifieke fokusareas in hierdie verband is uitbranding en werksbegeestering. Die gebruik van betroubare en geldige meetinstrumente is belangrik vir die meting van uitbranding en werksbegeestering. Dit word egter bemoeilik deur die afwesigheid van empiriese navorsing wat uitbranding en werksbegeestering in Suid-Afrika sistematies ondersoek asook ernstige beperkinge, wat swak ontwerpte studies, 'n gebrek aan gesofistikeerde statistiese tegnieke en swak gekontroleerde studies insluit. Omdat Suid-Afrika 'n multikulturele land is, is die meting van ekwivalensie ook belangrik wanneer meetinstrumente gebruik word vir verskillende kultuurgroepe.

Die doelstellings van hierdie navorsing was om die MBI-GS en UWES te standaardiseer vir werknemers in 'n versekeringsmaatskappy en om ekwivalensie vir elk van hierdie meetinstrumente te bepaal, om die ervaarde beroepstressors en demografiese verskille ten opsigte van die ervaring van beroepstressors te bepaal en om 'n oorsaaklike werkswelstandmodel wat die rol van uitbranding, werksbegeestering, werkseise, werkshulpbronne, gesondheid, optimisme en 'n geneigdheid om te bedank te toets.

Die navorsingsmetode vir elk van die drie artikels het bestaan uit 'n kort literatuuroorsig en 'n empiriese studie. 'n Dwarsdeursnee-opnameontwerp is gebruik. 'n Beskikbaarheidsteekproef (N = 613) is van werknemers in 'n versekeringsmaatskappy geneem. Die Maslach-Uitbrandingsvraelys – Algemene Opname (MBI-GS), Utrecht-Werkbegeesteringskaal

(UWES), Lewensoriëntasietoets – Hersiene Weergawe (LOT-R), 'n Organisatoriese Streswaarnemingsvraelys (ASSET), Werkskenmerke-vraelys (JCS) en 'n biografiese vraelys is afgeneem. Die statistiese analise is gedoen met behulp van die SAS-program en AMOS. Die statistiese metodes wat gebruik is in al drie artikels het bestaan uit beskrywende statistiek, Cronbach-alfakoëffisiënte, interitemkorrelasies, Pearson-produkmoment-korrelasiekoëffisiënte en strukturele vergelykingsmodellering. 'n Eenrigting-variasieanalise (ANOVA) is ook gebruik om die verskille tussen die subgroepe in die steekproef te bepaal.

Strukturele vergelykingsmodellering het 'n 3-faktormodel van uitbranding bestaande uit uitputting, sinisme en professionele doeltreffendheid bevestig. Die 3-faktormodel van die UWES verteenwoording die data goed nadat sekere items vervang is weens semantiese probleme. Die MBI-GS en UWES het beide aanvaarbare interne konsekwentheid getoon. Konstruk ekwivalensie vir verskillende taalgroepe is bevestig vir beide die MBI-GS en die UWES.

Die voortdurende blootstelling aan aspekte soos verandering, kompetisie en vyandskap kan tot gevoelens van stres lei. Stres mag 'n negatiewe impak op gesondheid en welstand van individue hê. Daar is gevind dat fisiese en psigologiese gesondheid die hoofuitkomste van stres vir werknemers is. Toewyding matig die ervaring van beroepstressors op swak gesondheid. Spesifieke beroepstressors wat aangedui is in 'n versekeringsmaatskappy het te doen met werksprestasiebestuur, werkskaraktertrekke, oorbodigheid van vaardighede en vergoeding. Biografiese faktore (d.i. departement, vlak, jare ervaring, ens.) het 'n impak om die ervaring van beroepstressors.

'n Eenfaktor-, vierfaktor- en driefaktor-werkswelstandmodel is getoets. Die driefaktormodel, bestaande uit uitputting en sinisme wat op uitbranding laai en 'n gekombineerde werksbegeesteringsdimensie (energie en toewyding), toon die beste passing met die data. Die oorsaaklike model van werkswelstand ondersteun die COBE-model, wat bestaan uit werkseise en werkshulpbronne. 'n Gebrek aan werkshulpbronne verhoog die vlakke van uitbranding van werknemers, sowel as die geneigdheid om die organisasie te verlaat. Die beskikbaarheid van werkshulpbronne verhoog die vlakke van werksbegeestering. Werknemers wat toenemende werkslading ervaar, is geneig om hoë vlakke van uitbranding te ontwikkel, wat kan lei tot gesondheidsprobleme.

Aanbevelings vir toekomstige navorsing is aan die hand gedoen.

CHAPTER 1

INTRODUCTION

This thesis focuses on the work wellness of employees in an insurance company in South Africa.

Chapter 1 contains the problem statement, research objectives and research methodology employed. The chapter starts out with a problem statement, giving an overview of previous related research conducted on work wellness and specifically burnout and work engagement in the insurance industry, linking it with this research project and its research objectives. A discussion of the research method follows, with details regarding the empirical study, research design, study population, measuring instruments and statistical analyses. It concludes with a chapter summary giving an overview of the chapters that comprise this thesis.

1.1 PROBLEM STATEMENT

The current operating and economic conditions for organisations have had a substantial impact on employees' work demands and obligations (Kickul & Posig, 2001). Organisations everywhere are downsizing, outsourcing and restructuring, leaving workers at all levels with feelings of stress, insecurity, misunderstanding, undervaluation and alienation. These rapid changes in organisations, along with the changes in information technology, make the situation more complex for employees (Lindström, Leino, Seitsamo & Tordtila, 1997). Not only are they faced with increased workloads and pressures but also with decreased job control. This relates to employee strain (Lindström et al., 1997). When the employee can no longer tolerate occupational pressures and feel totally overwhelmed by stress, he or she is likely to reach breaking point and experience burnout (Weisberg, 1994).

The changing work environment also had an impact on the insurance industry. The insurance industry expanded considerably in the late nineteenth century due to rapid economic growth, urbanisation and popular education (Chan, 2002), inducing acute competitiveness and rivalry between companies and between employees (Lai, Chan, Ko & Boey, 2000). These changes along with the increased pressure to perform (Chan, 2002; Lai et al., 2000) may result in

feelings of distrust, tension, strain in interpersonal relations (Lai et al., 2000), psychological strain, fatigue and tension (Lindström et al., 1997), all affecting the well-being of employees.

In a study done between 1987 and 1993 among insurance company employees, Lindström et al. (1997) indicated that a lot of job insecurity is experienced. They found that a lack of content variety and control was related to high demands in attention and high physical workload (r = 0,49-0,53), poor interpersonal relationships (r = 0,35-0,48) and job insecurity (r = 0,21-0,25). It seems that continuous organisational restructuring not only affect perceived job characteristics but also the health and well-being of employees. Negative feelings, as indicated above, ultimately have an impact on the overall work wellness within the organisation.

A result of decreased psychological well-being can be burnout. Burnout has been recognised as a serious threat, particularly for employees who work with people (Van Dierendonck, Schaufeli & Buunk, 1993). Schaufeli and Enzmann (1998, p.36) define burnout as "a persistent, negative, work-related state of mind in 'normal' individuals that is primarily characterised by exhaustion, which is accompanied by distress, a sense of reduced effectiveness, decreased motivation, and the development of dysfunctional attitudes and behaviours at work". According to Levert, Lucas and Ortlepp (2000), burnout can be seen as the end result of consistently unmediated or unsuccessful attempts at mediating stressors in the environment on the part of the individual.

Maslach (1982, 1993), Maslach, Jackson and Leiter (1996) and Maslach, Schaufeli and Leiter (2001) describe burnout as a syndrome consisting of three dimensions, namely feelings of emotional exhaustion, depersonalisation (cynicism) and reduced personal accomplishment. *Emotional exhaustion,* the individual stress dimension of burnout, refers to feelings of depleted physical and emotional resources and prompts actions in the worker to distance him/her emotionally and cognitively from his/her work, presumably as a way to cope with work overload. The interpersonal context dimension is represented by *depersonalisation*, which entails negative, callous and cynical attitudes or excessively detached responses towards the recipients of service and care, reducing the recipient to an impersonal object. These two dimensions are generally considered to be the core symptoms of burnout (Demerouti, Bakker, Nachreiner & Schaufeli, 2000). The third dimension, *lack of personal accomplishment* (Demerouti et al., 2000), represents the self-evaluation dimension of burnout

and refers to feelings of insufficiency (Schaufeli & Buunk, 1996), incompetence, lack of achievement and feelings of unproductiveness (Maslach et al., 2001).

Schaufeli and Enzmann (1998) agree partially with the above description by Maslach (1982, 1993) and Maslach et al. (1996, 2001) by also identifying exhaustion as a core indicator of burnout and a sense of reduced effectiveness as an accompanying symptom, but name another three accompanying general symptoms. The other three symptoms are distress (affective, cognitive, physical and behavioural), decreased motivation, and dysfunctional attitudes and behaviours at work. As a result, the definition of burnout as presented by Schaufeli and Enzmann (1998, p. 36), as mentioned earlier, may represent a summary of the above. Burnout is further viewed by the authors as self-perpetuating due to inadequate coping strategies and frustrated intentions.

Research over the past two decades has shown that burnout is not only related to negative outcomes for the individual, including depression, a sense of failure, fatigue and loss of motivation, but also to negative outcomes for the organisation, including absenteeism, heightened turnover rates and lowered productivity. According to Levert et al. (2000), burnt-out workers have shown a lack of commitment and are less capable of providing adequate services, especially along the dimensions of decision making and initiating involvement with clients (Fryer, Poland, Bross & Krugman, 1988; Maslach, 1982). Burnt-out workers are also too depleted to give of themselves in a creative, co-operative fashion (Sammut, 1997).

Two trends recently emerged in burnout research which both boils down to a broadening of the traditional concept and scope (Maslach et al., 2001). First the concept of burnout that was initially closely linked to the human services, such as health care, education and social work where people do 'people' work of some kind, has been expanded towards all other professions and occupational groups. Secondly, burnout research seems to shift towards its opposite, namely ***work engagement***. Researchers recently extended their interest to the positive pole of employees' well-being, instead of looking exclusively to the negative pole. From this perspective, burnout is rephrased as erosion of work engagement with the job (Schaufeli, Salanova, González-Romá & Bakker, 2002). This development indicates an emerging trend towards a 'positive psychology' that focuses on human strengths and optimal functioning rather than on weaknesses and malfunctioning (Seligman & Cshikszentmihalyi, 2000).

Burnout and work engagement are independent states that, because of their antithetical nature, are negatively related (Schaufeli & Bakker, 2004). As burnout is a result of decreased psychological well-being and therefore has an impact on the work wellness of employees, it is expected that work engagement, as the opposite of burnout, will have a positive impact on the work wellness of employees.

Work engagement is defined as an energetic state in which the employee is dedicated to excellent performance at work and is confident in his or her effectiveness (Schutte, Toppinen, Kalimo & Schaufeli, 2000). It consists of the positive poles of the burnout dimensions, namely vigour, dedication and absorption. According to Schaufeli, Salanova et al. (2002), *vigour* refers to high levels of energy and mental resilience while working, as well as a willingness to exert effort and to persist even through difficult times. *Dedication* is described as a sense of significance, enthusiasm, inspiration, pride and challenge. *Absorption* refers to a tendency to be fully concentrating on and deeply engrossed in work, as a result of which time passes quickly and one has difficulty to detach oneself from one's work. It also includes focused attention, clear minds, mind and body unison, effortless concentration, complete control, loss of self-consciousness, distortion of time and intrinsic enjoyment (Cshikszentmihalyi, 1990).

A first research problem is that in most of the research that has been done on burnout, the Maslach Burnout Inventory (MBI) (Maslach & Jackson, 1986) was used. Furthermore, except for police officers (Storm, 2002) and emergency workers (Naudé, 2003) in South Africa, the Maslach Burnout Inventory – General Survey (MBI-GS) has not yet been validated and standardised for employees in other occupations in South Africa. A second research problem is that the construct equivalence of the MBI-GS for different language groups in South Africa has not been sufficiently studied.

Maslach and Leiter (1997) stated that work engagement is characterised by energy, involvement and efficacy, which are considered the direct opposites of the three burnout dimensions, namely exhaustion, cynicism and lack of professional efficacy (the three dimensions of burnout according to the MBI-GS). Schaufeli, Salanova, et al. (2002) developed the Utrecht Work Engagement Scale (UWES) to measure work engagement and found acceptable reliability for it. Confirmatory factor analysis has demonstrated the factorial validity of the UWES (Schaufeli, Salanova et al., 2002).

Four studies (Naudé, 2003; Schaufeli, Martinez, Pinto, Salanova & Bakker, 2002; Schaufeli, Salanova et al., 2002; Storm, 2002) were found that focused on work engagement and its relationship with burnout. The study of Naudé (2003) and Storm (2002) were the only studies found in South Africa focusing on internal consistency, factorial validity, structural equivalence and bias of the UWES. Naudé (2003) and Storm (2002) tested the full hypothesised three-factor model consisting of all 17 items (Schaufeli, Salanova et al., 2002). Naudé (2003) and Storm (2002) obtained poor statistical significance for the originally hypothesised three-factor model. Exploratory factor analysis was done and by deleting two items, they re-specified the model. A better fit between statistical results and the theoretical assumptions of Schaufeli, Salanova et al. (2002) was subsequently obtained (Naudé, 2003; Storm, 2002). However, Storm (2002) indicated that although satisfactory results were obtained for the three-factor model, it seemed that the fit with the data was superior for a one-factor model. Consequently, Storm (2002) found that a one-factor model fitted the data the best in her random, stratified sample of police members in South Africa. Naudé (2003) found a poor fit for a one-factor model in his sample of emergency workers in South Africa.

Because the study of Naudé (2003) and Storm (2002) were among the first in South Africa examining the psychometric properties of the UWES, and did so only for emergency workers and police officers, the need to also examine the construct validity and internal consistency of the UWES for other occupations is of great importance. Furthermore, the above studies were done only on emergency workers and police officers, and is therefore not yet standardised for other occupations in South Africa, which makes it difficult to place the research results into context. A third research problem, therefore, is that the UWES is not validated and standardised for employees working in an insurance company in South Africa. This makes it difficult to assess the levels of work engagement of employees working in an insurance company in South Africa as well as to compare such levels of work engagement with various other demographic groups in other insurance companies. A fourth research problem is that the UWES does not show construct equivalence for different groups.

It can therefore be concluded from the above discussion that it is of the utmost importance to standardise measuring instruments to measure burnout and work engagement in employees working in an insurance company in South Africa.

Stress has become one of the most serious health issues, a problem not just for individuals but also for their employers (Lu, 1999). Research over the past three decades has shown that the experiences of occupational stress are closely related to the health and safety of individuals and to the well-being of their organisations or institutions (Rees, 1995; Rees & Redfern, 2000). According to Sadri (1997, p. 1), "stress may be defined as a situation wherein factors interact with a person to change (i.e. disrupt or enhance) his/her psychological and/or physiological condition, such that the person is forced to deviate from normal functioning". Work stress is also often seen as a result of an individual's failure to make adjustments to the work environment (Lai et al., 2000), thus an emotional response to work-related events and situations. Insurance agents define stress in terms of sustained pressure to produce, to meet the annual quota of sales (Chan, 2002).

Stress can be manifested psychologically, physically and behaviourally (Lai et al., 2000). Much of the stress and strain experienced, specifically by insurance agents, lies in the transactions and negotiations with strangers, with the unknown, the unfamiliar, the unpredictable (Chan, 2002). According to the findings of Mills and Huebner (1998) there is significant evidence that occupational stress could influence the experience of burnout considerably. The link between unmanaged stress and the negative impact on health and well-being are well demonstrated in stress research and are linked to severe physical consequences, some of which may be fatal (Winefield, Gillespie, Stough, Dua & Hapuararchchi, 2002).

In general, stressful events lead to a strain reaction, and persistent or chronic strain may lead to exhaustion and psychological or physical distress, all potential consequences of burnout (Maslach, 1978). Feelings of burnout have also been found to correlate with many occupational stressors and occupational strain variables and might be considered a type of occupational strain (Cordes & Dougherty, 1993; Lee & Ashforth, 1996).

In order to explain the causal pattern or relationship between occupational stresses and their outcomes, several theoretical models have been developed. One such model is the Job Demands-Control Model. The Job Demands-Control Model of Karasek (1979) is based on the proposition that the interaction between job demands and job control (decision latitude) are the key in explaining strain-related outcomes. In other words, jobs that combine high

levels of demand with low levels of autonomy, control or decision latitude are the most stressful (Winefield et al., 2002).

According to Siu (2002) and Winefield et al. (2002) there is significant evidence to suggest that chronic and high levels of occupational stress, left unchecked, may be related to a lack of mental and physical well-being, job dissatisfaction, absenteeism, stress-related injuries, employee turnover and intention to quit. Matheny, Gfroerer and Harris (2000) also indicate that when work stress leads to burnout, it has serious consequences for a person's health. It is therefore of the utmost importance to identify potential occupational stressors as well as variables that have beneficial consequences for both employees and their organisations (Siu, 2002). The experience of occupational stressors cannot be left unattended. A fifth research problem is that there are certain occupational stressors within an insurance company and that these stressors impact the health outcomes of employees. It is therefore important that the various occupational stressors within an insurance company should be identified in order to be able to put the necessary prevention mechanisms in place.

It is possible that certain variables might moderate the effects of occupational stress. Cooper, Dewe and O'Driscoll (2001, p. 117) define a moderator as "a variable that affects the direction and/or strength of the relation between an independent or predictor variable and a dependent or criterion variable". Recently, organisational commitment has been identified as a significant moderator of stress (Siu, 2002) and has been linked to work engagement (Lee & Olshfski, 2002). Two approaches can be followed when defining organisational commitment (Blau & Boal, 1987). In the first approach, commitment is seen as a behaviour during which the individual is viewed as committed to an organisation because it is too costly for him or her to leave. In the second approach the individual is committed to the organisation because of shared goals and the wish to maintain membership (Blau & Boal, 1987). However, organisational commitment has recently been expanded to a more comprehensive view, consisting of three components, namely affective, continuance and normative commitment (Meyer, Stanley, Herscovitch & Topolnytsky, 2002; Siu, 2002). "Affective commitment denotes an emotional attachment to, identification with and involvement in the organisation. Continuance commitment denotes the perceived cost associated with leaving the organisation, and normative commitment, reflects a perceived obligation to remain in the organisation" (Meyer et al., 2002, p. 21).

This multidimensional commitment construct has been tested and confirmed in both Western (Meyer et al., 2002) and Non-Western countries (Suliman & Iles, 2000). However, Suliman and Iles (2000) indicated in their study among non-western employees that affectively committed employees are more likely to maintain organisational membership and contribute to the success of the organisation than continuance committed employees. Furthermore, the affectively committed employee may remain in the organisation because he/she wishes to maintain membership in order to facilitate organisational goals (Mowday, Porter & Steers, 1979). As long as the exchange relationship (efforts – rewards) between the individual and the organisation exist, he/she may not think of leaving the organisation to which he/she is emotionally attached. Siu (2002) suggested that top management should pay attention to workers' affective organisational commitment, as this attitudinal trait could have both direct and indirect effects on the well-being of employees. Within the context of this research, the focus will be mainly on the affective component of commitment, as it refers to the relative strength of an individual's identification with and involvement in a particular organisation (Mowday et al., 1979).

Siu's (2002) results showed that organisational commitment was not only related to most of the physical and psychological outcomes among workers, but also to the moderating effects on the stressor-health relationship. Organisational commitment therefore interacts with sources of stress at work to determine their outcomes. Siu (2002) argued that this indirect or moderating effect of commitment protects individuals from the negative effect of stress, due to the fact that it enables them to attach direction and meaning to their work. Organisational commitment may also provide people with stability and a feeling of belonging. However, the opposite may also be true. Given the above, it is possible that organisational commitment will moderate the experience of occupational stress on health outcomes. A sixth research problem is therefore that information regarding the moderating effect of organisational commitment on the experience of occupational stress on health outcomes, is lacking in an insurance company.

The focus on work wellness can be better explained by means of the model of well-being at work developed by Schaufeli and Bakker (2001). They distinguish between two dimensions that could be used to classify four types of well-being at work, namely the extent of pleasure at work (i.e. pleasurable versus unpleasurable) and the mobilisation of energy. This taxonomy makes it possible to distinguish between burnout and work engagement. As mentioned

earlier, burnout is a metaphor commonly used to describe a state or process of mental exhaustion (Schaufeli & Enzmann, 1998), and work engagement is an energetic state in which the employee is dedicated to excellent performance at work and is confident in his or her effectiveness (Schutte et al., 2000). Both burnout and work engagement are indicators of the wellness of employees within organisations. Burnout and work engagement are considered each other's opposites, particularly as far as exhaustion and vigour, and cynicism and dedication are concerned (Schaufeli & Bakker, 2004), and it is suggested that burnout and work engagement will show strong negative correlations (Maslach & Leiter, 1997).

When people are placed in conditions where they cannot control events, especially where the events have negative consequences, responses include depression, rigidity and an inability to make plans (Rowe, 2000). These are the very same behaviours exhibited by those experiencing a decreased psychological well-being, i.e. burnout (Keane, Ducette & Adler, 1985). It seems therefore reasonable to argue that the cause of burnout or decreased wellness has something to do with the relationship between stress and the experience of occupation burnout (Rowe, 2000).

Building on the work of Karasek (Fox, Dwyer & Ganster, 1993) and research on the Maslach Burnout Inventory (MBI), Maslach and Jackson (1986) proposed a descriptive heuristic framework, stating that the presence of particular demands (i.e. work overload and personal conflicts) and the absence of particular resources (i.e. control coping, social support, autonomy and decision involvement) would lead to the prevalence of burnout, resulting in other expected negative outcomes, such as physical illness, turnover and absenteeism. Demerouti et al. (2000) developed the Job Demand-Resources (JD-R) model and confirmed that job demands are associated with exhaustion, whereas lacking job resources are associated with disengagement. Work engagement is positively associated with job characteristics that might be labelled as resources, motivators or energisers, such as social support from co-workers and superiors, performance feedback, coaching, job autonomy, task variety and training facilities (Schaufeli & Bakker, 2004).

Schaufeli and Bakker (2004) extended the JD-R model by including work engagement and by adding indicators for health impairment and organisational withdrawal in the Comprehensive Burnout and Work 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 organisational outcomes.

Levels of burnout increase as the intensity of job experience and the demands of the employee increase (Elloy, Terpening & Kohls, 2001). Work overload, role conflict and role ambiguity appear to increase the frequency of burnout (Maslach & Jackson, 1986). Lower levels of burnout are reported by employees who experience autonomy in their jobs, positive feedback, an opportunity to use their professional skills, and a work environment free of ambiguity (Savicki & Cooley, 1987).

In the light of the above, it seems vital that a holistic and integrated model of work wellness be determined within the South African environment, and specifically within the insurance industry with the integration of burnout and work engagement and the impact of job resources and job demands on this relationship. A seventh research problem is that there is a lack of a causal model of work wellness consisting out of positive and negative factors of employees working in an insurance company in South Africa.

Within this casual model it is expected that certain factors will either moderate or mediate the work wellness of employees in an insurance company. Optimism has been identified as an important factor in physical health, especially for people experiencing stress (Cassidy, 2000). In a hierarchical multiple regression analysis done by Fry (1995), evidence was found that optimism significantly moderates the relationship between daily hassles and self-esteem maintenance, burnout and physical illness. Dispositional optimism can be defined as a person's positive outlook towards life events (Ebert, Tucker & Roth, 2002; Scheier, Carver & Bridges, 1994). Optimism is furthermore also associated with improved immune functioning and lower neuroticism scores (Ebert et al., 2002; Scheier et al., 1994; Segerstrom, Taylor, Kemeny & Fahey, 1998; Shea, Burton & Girgis, 1993). A number of researchers described this personality trait as a psychological resistance factor, which could be used to conceptualise individual differences and is related to more positive outcomes (Ebert et al., 2002). Positive outcomes predicted by optimism include: 1) coping with major life stresses, 2) adjusting to major life transitions, and 3) responses to more minor stresses (Hasan & Power, 2002). Therefore, a final research problem is that little information exists regarding the possible moderating effects of optimism on the relationship between job demands and resources on the one hand and burnout and health on the other hand.

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

- It will result in measuring instruments for burnout and work engagement, which have been proven to be reliable, valid and equivalent for different groups.
- It will result in a standardised measuring instrument for occupational stress, which has been proven to be reliable and valid.
- A casual model of work wellness and strain will exist, which could be used to enhance wellness of employees in the insurance industry.

1.2 RESEARCH OBJECTIVES

The research objectives are divided into a general objective and specific objectives.

1.2.1 General objective

With reference to the above formulation of the problem, the general objective of this research is to standardise the Maslach Burnout Inventory – General Survey (MBI-GS) and the Utrecht Work Engagement Scale (UWES) for employees working in an insurance company, and to develop causal models of work wellness and strain of employees in an insurance company.

1.2.2 Specific objectives

The specific research objectives are as follows:

- To determine the construct validity and internal consistency of the MBI-GS for employees working in an insurance company.
- To determine if the scales of the MBI-GS show construct equivalence for different groups.
- To determine the construct validity and internal consistency of the UWES for employees working in an insurance company.
- To determine if the scales of the UWES show construct equivalence for different groups.

- To determine the various occupational stressors experienced within an insurance company.
- To determine if biographical factors have an impact on the experience of occupational stressors.
- To determine whether organisational commitment moderates the effect o f occupational stress on health outcomes within an insurance company.
- To determine whether burnout and work engagement are negative correlated in a sample of insurance employees.
- To develop and test a casual model of work wellness comprising burnout and work engagement for employees working in an insurance company and to test effects on health and propensity to leave.
- To determine whether optimism moderates the relationship between a lack of job resources, burnout and health outcomes within an insurance company.
- To make recommendations for the prevention and/or management of occupational stress, burnout and work engagement of employees working in an insurance company.

1.3 RESEARCH METHOD

The research method for each of the three articles which are submitted for the purposes of this thesis consists of a brief literature review and an empirical study. Because separate chapters were not targeted for literature review, this paragraph focuses on aspects relevant to the empirical studies that are conducted. The reader should note that a literature study is conducted for the purposes of each article.

1.3.1 Literature review

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

1.3.2 Research design

A cross-sectional design with a survey as the data collection technique is used to achieve the research objectives. Cross-sectional designs are used to examine groups of subjects in various stages of development simultaneously, while a survey is a data collection technique in which questionnaires are used to gather data about an identified population (Burns & Grove, 1993). Information collected is used to describe the population at that time. This design can also be used to assess interrelationships among variables within a population. According to Shaughnessy and Zechmeister (1997) this design is best suited to addressing the descriptive and predictive functions associated with correlational design, whereby relationships between variables are examined.

Structural equation modelling (SEM) is used to address the problems associated with this design (Byrne, 2001). Structural equation modelling is also used to test casual models of work wellness and strain. Structural equation modelling is a statistical methodology that takes a confirmatory (i.e. hypothesis-testing) approach to the analysis of a structural theory bearing on some phenomenon (Byrne, 2001). Structural equation modelling conveys two important aspects of the procedure:

- that the casual processes under study are represented by a series of structural (i.e. regression) equations, and
- that these structural relations can be modelled pictorially to enable a clear conceptualisation of the theory under study.

1.3.3 Study population

The study population consists of an availability sample of employees in an insurance company in South Africa (N = 613). The majority of the sample consisted of employees working in the Client Services department, dealing with administration and having contact with clients on a daily basis. The sample consists mainly of English-speaking, married females with a Grade 12 school qualification.

1.3.4 Measuring Battery

Seven questionnaires are used in the empirical study, namely the Maslach Burnout Inventory – General Survey (MBI-GS) (Maslach et al., 1996), the Utrecht Work Engagement Scale (UWES) (Schaufeli, Salanova et al., 2002), Life Orientation Test – Revised (LOT-R) (Scheier et al., 1994), the *ASSET* (An Organisational Stress Screening Tool) (Cartwright & Cooper, 2002), and the Job Characteristics Scale (JCS) developed for the purpose of this study.

The *Maslach Burnout Inventory – General Survey* (MBI-GS) (Maslach et al., 1996) is used to measure burnout. The MBI-GS has three subscales: Exhaustion (Ex) (five items; e.g. "I feel used up at the end of the workday"), Cynicism (Cy) (five items; e.g. "I have become less enthusiastic about my work") and Professional Efficacy (PE) (six items; e.g. "In my opinion, I am good at my job"). Together the sub-scales of the MBI-GS provide a three-dimensional perspective on burnout. Internal consistencies (Cronbach coefficient alphas) 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 to 0,84 for Professional Efficacy. Test-retest reliabilities after one year were 0,65 (Exhaustion), 0,60 (Cynicism) and 0,67 (Professional Efficacy) (Maslach et al., 1996). All items are scored on a seven-point frequency-rating scale ranging from 0 (*never*) to 6 (*daily*). Storm (2002) confirmed the 3-factor structure of the MBI-GS in a sample of 2 396 members of the South African Police Service (SAPS), but recommended that Item 13 should be dropped from the questionnaire. She confirmed the structural equivalence of the MBI-GS for different race groups in the SAPS. The following Cronbach alpha coefficients were obtained for the MBI-GS: Exhaustion: 0,88; Cynicism: 0,79; and Professional Efficacy: 0,78 (Storm, 2002).

The *Utrecht Work Engagement Scale* (UWES) (Schaufeli, Salanova et al., 2002) is used to measure the levels of work engagement of the participants. The UWES includes three dimensions, namely vigour, dedication and absorption, which are conceptually seen as the opposite of burnout and are scored on a seven-point frequency-rating scale, varying from 0 (*never*) to 6 (*every day*). The questionnaire consists of 17 questions and includes questions like "I am bursting with energy every day in my work"; "Time flies when I am at work" and "My job inspires me". The alpha coefficients for the three subscales varied between 0,68 and 0,91. The alpha coefficient could be improved (α varies between 0,78 and 0,89 for the three

sub-scales) by eliminating a few items without substantially decreasing the scales' internal consistency. Storm (2002) obtained the following alpha coefficients for the UWES in a sample of 2 396 members of the South African Police Service: Vigour: 0,78; Dedication: 0,89; and Absorption: 0,78. Naudé (2003) obtained the following alpha coefficients in a sample of 405 emergency workers in South Africa: Vigour: 0,70; Dedication: 0,83; and Absorption: 0,67.

The *Life Orientation Test – Revised* (LOT-R) (Scheier et al., 1994), a ten-item measure is used to measure dispositional optimism. Six items contribute to the optimism score and four items are fillers. The original Life Orientation Test (Scheier & Carver, 1985) as a two-factor structure (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 is measured on a five-point Likert Scale, ranging from 5 (*strongly agree*) to 1 (*strongly disagree*). The LOT-R was found to have adequate internal consistency (Cronbach's 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.

The *ASSET* (which refers to An Organisational Stress Screening Tool) 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 is divided into four questionnaires. The first questionnaire (37 items) measures the individual's perception of his or her job. This subscale includes questions relating to eight potential sources of stress, namely: work relationship; work-life balance; overload; job security; control; resources and communication; job overall; and pay and benefits. The second questionnaire (9 items) measures the individual's attitude toward his or her organisation, and includes questions relating to perceived levels of commitment both from and to the organisation. The third questionnaire (19 items) focuses on the individual's health, aimed at specific outcomes of stress, and includes questions relating to both physical and psychological health. The fourth questionnaire (24 items) focuses on supplementary information, i.e. the background

information, and includes questions relating to factors that may affect stress. The first three questionnaires of the ASSET are scored on a scale, varying from 1 (*strongly disagree*) to 6 (*strongly agree*). The fourth questionnaire is scored on a scale varying from 1 (*never*) to 4 (*often*).

The ASSET has an established set of norms from a database of responses from 9188 workers in public and private sector organisations (non-higher education institutions) 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 had 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. A series of cronbach alphas was carried out on each of the questions for the five ASSET subscales to determine the reliability of the ASSET questionnaire against these data. The results ranged from 0,64–0,94, showing good reliability.

The *Job Characteristics Scale* (JCS) is developed for the purpose of this study to measure job demands and job resources for employees. The JCS consists of 48 items. Various demands and resources in the organisation were identified and measured 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 at work, information, communications, participation, contact possibilities, uncertainty about the future, remuneration and career possibilities. The internal consistency and construct validity of the scale will be determined.

1.3.5 Statistical analysis

The statistical analysis is carried out with the help of the SAS program (SAS Institute, 2000). Prior to principal factor extraction, principal component extraction is done to estimate the number of factors, the presence of outliers and the factorability of the correlation matrices. Descriptive statistics (e.g. means, standard deviations, skewness and kurtosis) are used to

analyse the data. Cronbach alpha coefficients and inter-item correlations are used to determine the internal consistency, homogeneity and unidimensionality of the measuring instruments (Clark & Watson, 1995). Coefficient alpha contains important information regarding the proportion of variance of the items of a scale in terms of the total variance explained by that particular scale. According to Clark and Watson (1995), the mean inter-item correlation (which is a straightforward measure of internal consistency) provides useful information in conjunction with the alpha coefficient of a scale (which is an indication of homogeneity of a scale), but as such cannot ensure unidimensionality of a scale.

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

One-way analysis of variance (ANOVA) is used to determine the differences between the subgroups of the sample. Tukey's Standardised Range t-tests are used to determine the statistical significance of differences obtained during ANOVAs. Practical significance of the differences in means between two groups is computed by means of the following formula (Cohen, 1988; Steyn, 1999):

$$d = \frac{Mean_A - Mean_B}{SD_{MAX}}$$

where

$Mean_A$ = Mean of the first group

$Mean_B$ = Mean of the second group

SD_{MAX} = Highest standard deviation of the two groups

The following formula is used to determine the practical significance of means of more than two groups (Steyn, 1999):

$$d = \frac{Mean_A - Mean_B}{Root \quad MSE}$$

where

$Mean_A$ = Mean of the first group

$Mean_B$ = Mean of the second group

$Root\ MSE$ = Root Mean Square Error

According to Cohen (1988), $0{,}10 \leq d \leq 0{,}50$ indicates a small effect; $0{,}50 \leq d \leq 0{,}80$ indicates a medium effect and $d \geq 0{,}80$ indicates a large effect. In terms of the current research, a cut-off point of 0,50 (medium effect) is set for the practical significance of the differences between group means.

Structural equation modelling (SEM) methods as implemented by AMOS (Arbuckle, 1997) are used to test the factorial model of the various measuring instruments, using the maximum likelihood method. Structural equation modelling is a statistical methodology that takes a confirmatory (i.e. hypothesis-testing) approach to the analysis of a structural theory bearing on some phenomenon (Byrne, 2001). The term "structural equation modelling" (SEM) conveys two important aspects of the procedure, namely that the causal processes under study are represented by a series of structural (i.e. regression) equations, and that these structural relations can be modelled pictorially to enable a clear conceptualisation of the theory under study. 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 be specified, a priori, SEM lends itself well to the analysis of data for inferential purposes. Secondly, although traditional multivariate procedures are incapable of either assessing or correcting for measurement error, SEM provides explicit estimates of these error variance

parameters. Thirdly, SEM procedures can incorporate both unobserved (latent) and observed variables.

Hypothesised relationships are tested empirically for goodness of fit with the sample data. The χ^2 statistic and several other goodness-of-fit indices summarise the degree of correspondence between the implied and observed covariance matrices. A large χ^2 relative to the degrees of freedom indicates a need to modify the model to fit the data better. Researchers have addressed the χ^2 limitations by developing goodness-of-fit indices that take a more pragmatic approach to the evaluation process. In addressing these limitations, one of the first alternative statistics to be included in the model was the χ^2/degrees of freedom or *CMIN/DF* statistic, which is the minimum discrepancy per degrees of freedom (Wheaton, Muthén, Alwin & Summers, 1977). These criteria, commonly referred to as "subjective" or "practical" indices of fit, are typically used as adjuncts to the χ^2 statistics. The hypothesised relationships with the data are also tested for goodness of fit, using the following goodness-of-fit statistics: Adjusted Goodness-of-Fit Index (AGFI); Parsimony Goodness-of-Fit Index (PGFI); Normed Fit Index (NFI); Comparative Fit Index (CFI), Tucker Lewis Index (TLI) and Root Mean Square Error of Approximation (RMSEA).

1.4 DIVISION OF CHAPTERS

The chapters are presented as follows in this thesis:

Chapter 1: Introduction
Chapter 2: The construct equivalence of the Maslach Burnout Inventory and Utrecht Work Engagement Scale in an insurance company
Chapter 3: Occupational stress of employees in an insurance company
Chapter 4: A model of work wellness of employees in an insurance company
Chapter 5: Conclusions, limitations and recommendations

1.5 CHAPTER SUMMARY

Chapter 1 focused on the problem statement, objectives and research method in this study. This was followed by a division of the chapters that follow.

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CHAPTER 2

RESEARCH ARTICLE 1

THE CONSTRUCT EQUIVALENCE OF THE MASLACH BURNOUT INVENTORY AND UTRECHT WORK ENGAGEMENT SCALE IN AN INSURANCE COMPANY*

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ABSTRACT

The objectives of this research were to validate the Maslach Burnout Inventory – General Survey (MBI-GS) and the Utrecht Work Engagement Scale (UWES) for employees in an insurance company in South Africa and to determine their construct equivalence for different language groups. A cross-sectional survey design with an availability sample (N = 613) was used. The MBI-GS, UWES and a biographical questionnaire were administered. Structural equation modelling confirmed a three-factor model of burnout, consisting of Exhaustion, Cynicism and Professional Efficacy and a three-factor model of work engagement consisting of Vigour, Dedication and Absorption. The scales showed acceptable internal consistencies. Acceptable construct equivalence of the three factors was confirmed for the Afrikaans, African and English groups.

OPSOMMING

Die doelstellings van hierdie navorsing was om die Maslach-Uitbrandingsvraelys – Algemene Opname (MBI-GS) en die Utrecht-Werkbegeesteringskaal (UWES) te valideer vir werknemers in 'n versekeringsmaatskappy in Suid-Afrika en om die konstrukekwivalensie daarvan vir die verskillende taalgroepe te bepaal. 'n Dwarssneeopname-ontwerp met 'n beskikbaarheidsteekproef (N = 613) is gebruik. Die MBI-GS, UWES en 'n biografiese vraelys is afgeneem. Strukturele vergelykings-modellering het 'n driefaktor-model van uitbranding bestaande uit Uitputting, Sinisme en Persoonlike Doeltreffendheid bevestig en 'n driefaktor-model van werkbegeestering bestaande uit Energie, Toewyding en Absorpsie. Die skale het aanvaarbare interne konsekwentheid getoon. Aanvaarbare konstrukekwivalensie vir die drie faktore is bevestig vir die Afrikaanse, Afrikaan en Engelse groepe.

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The insurance industry expanded considerably in the late 19th century (Chan, 2002), inducing acute competitiveness and rivalry between companies and employees (Lai, Chan, Ko & Boey, 2000). This, along with the increased demands from current operating and economic conditions world-wide, force organisations to make rapid changes to their workforce. Everywhere organisations are downsizing, outsourcing and restructuring, ultimately impacting on employees' work demands and obligations (Kickul & Posig, 2001) and leaving them with feelings of stress, insecurity, misunderstanding, undervaluation and alienation. These rapid changes in organisations, along with the changes in information technology, make the situation more complex for employees (Lindström, Leino, Seitsamo & Tordtila, 1997). They are faced not only with increased workloads and pressures but also with decreased job control (Chan, 2002; Lai et al., 2000). When the employee can no longer tolerate occupational pressures and feels totally overwhelmed by stress, he or she is likely to reach breaking point and experience burnout (Weisberg, 1994). In light of the above-mentioned, it seems vital that further research, especially in South Africa, be done into burnout as experienced by employees working in an insurance company.

Burnout is of both individual and organisational concern, with ramifications for well-being, job performance, absenteeism and staff turnover (Kilfedder, Power & Wells, 2001). It has been recognised as a serious threat, particularly for employees who work with people (Van Dierendonk, Schaufeli & Buunk, 1993). However, it is not exclusively experienced by human services professions (Maslach & Schaufeli, 1993). Burnout appears to be specific to the work domain, in the sense that its origins lie in the job situation. The phenomenon may therefore be found in other types of occupations, which makes the current study relevant.

Burnout has been defined as "a persistent, negative, work-related state of mind in 'normal' individuals that is primarily characterised by exhaustion, which is accompanied by distress, a sense of reduced effectiveness, decreased motivation, and the development of dysfunctional attitudes and behaviours at work" (Schaufeli & Enzmann, 1998, p. 36). Maslach (1982, 1993), Maslach, Jackson and Leiter (1996) and Maslach, Schaufeli and Leiter (2001) describe burnout as a syndrome consisting of three dimensions, namely feelings of emotional exhaustion, depersonalisation (cynicism) and reduced personal accomplishment (professional efficacy). Schaufeli and Enzmann (1998) agree partially with the above description by Maslach (1982, 1993) and Maslach et al. (1996, 2001) by also identifying exhaustion as a

core indicator of burnout and a sense of reduced effectiveness as an accompanying symptom, but name another three accompanying general symptoms. The other three symptoms are distress (affective, cognitive, physical and behavioural), decreased motivation and dysfunctional attitudes and behaviours at work.

It is important to use a reliable and valid instrument to measure burnout. The development of the Maslach Burnout Inventory – General Survey (MBI-GS) (Schaufeli, Leiter, Maslach & Jackson, 1996) made it possible to make comparisons among different occupational groups. Thus the concept of burnout and its measurement were broadened to include all employees and not only those who do "people work" (Maslach & Leiter, 1997). The MBI-GS comprises three subscales: Exhaustion (Ex), Cynicism (Cy) and Professional Efficacy (PE). The exhaustion items of the MBI-GS are generic; they refer to fatigue, but without direct reference to people as the source of those feelings, as in the MBI – emotional exhaustion subscale. Cynicism reflects indifference or a distant attitude towards one's work in general. Unlike previous versions, the MBI-GS items refer to work itself rather than to recipients of one's service or personal relationships at work. Professional efficacy encompasses both social and non-social accomplishments at work.

Empirical studies revealed that some employees, regardless of high job demands and long working hours, do not develop burnout in comparison to others, but seemed to find pleasure in hard work and dealing with job demands (Schaufeli & Bakker, 2001). Consequently, theoretical and empirical studies commenced on the concept of work engagement, theoretically viewed as the antithesis of the burnout construct. Development of the work engagement construct took two different, but related paths. Firstly Maslach and Leiter (1997) rephrased burnout as an "erosion of engagement with the job". Work engagement, according to these authors, is characterised by energy, involvement and efficacy, the direct opposites of burnout. Consequently, work engagement could theoretically be measured by means of the Maslach Burnout Inventory (MBI) when low scores on exhaustion and cynicism and high scores on professional efficacy are obtained. The second path was taken by Schaufeli, Salanova, Gonzáles-Romá and Bakker (2002), agreeing in part with the description of work engagement proposed by Maslach and Leiter (1997), with the difference that work engagement be measured with a different instrument worthy of operationalisation in its own right.

Work engagement is defined as a positive, fulfilling, work-related state of mind that is characterised by vigour, dedication and absorption. Furthermore, it is not a momentary and specific state, but a more persistent and pervasive affective-cognitive state which is not focussed on a particular object, event, individual or behaviour (Schaufeli, Salanova et al., 2002). *Vigour* is characterised by high levels of energy and mental resilience while working, as well as a willingness to exert effort and to persist even through difficult times. *Dedication* is characterised by a sense of significance in one's work, feeling enthusiastic, inspired and proud, and by viewing it as a challenge. *Absorption* comes close to the concept of "flow", an optimal state of experience where focussed attention, a clear mind, unison of body and mind, effortless concentration, complete control, loss of self-consciousness, distortion of time and intrinsic enjoyment are experienced (Csikszentmihalyi, 1990).

In terms of South African studies, various studies regarding the validity, reliability and the establishments of norms of the MBI-GS and UWES in different occupational settings were found. However, a lack of research in terms of burnout and work engagement of employees in the insurance industry within the South African context necessitates the current research. Rothmann (2003) stressed the need for work wellness research (including both burnout and work engagement). It is not only important to obtain valid and reliable measurements of burnout and work engagement in South Africa from an empirical point of view, but also to enable the individual measurement of burnout and work engagement in a valid and reliable manner in the insurance industry context in South Africa. According to Van de Vijver and Leung (1997), issues of measurement equivalence should be computed for measuring instruments in any multicultural setting where groups from different cultural groups are compared in terms of a specific construct. This is particularly relevant where no norms exist for the different cultural groups, which is often the case in cross-cultural research. In line with recommendations of Poortinga (1989) and Van de Vijver and Leung (1997) measurement equivalence 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 differences resulting from the measuring of the constructs by the measuring instruments. If cultural influences are not accounted for, invalid conclusions regarding the constructs under study could be made, with serious implications for culturally diverse settings such as South Africa.

The objectives of this study were to determine the construct validity, internal consistency and cross-comparability (construct equivalence) of the Maslach Burnout Inventory – General Survey (MBI-GS) and Utrecht Work Engagement Scale (UWES) for employees in an insurance company.

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

The Maslach Burnout Inventory (MBI) (Maslach et al., 1996) is currently the most widely used research instrument to measure burnout. It has been used in over 90% of empirical research (Schaufeli & Enzmann, 1998). Three versions of the MBI were developed, namely the MBI-GS (General Survey), MBI-ED (Educators) and MBI-HSS (Human Services Survey). The dimensions of burnout are conceptualised differently, depending on the nature of the job concerned. In the helping professions (including education), three dimensions of burnout are distinguished, namely emotional exhaustion, depersonalisation and low personal accomplishment. In jobs other that the helping professions the dimensions of burnout is labelled as exhaustion, cynicism and low professional efficacy (Maslach et al., 1996). For the purpose of this study, the MBI-GS will be used.

The psychometric properties of the MBI-GS are satisfactory. Internal consistencies varying from 0,73 (Cynicism) to 0,91 (Exhaustion) are reported by Leiter and Schaufeli (1996). Reliability analyses done by Schutte, Toppinen, Kalimo and Schaufeli (2000) showed that the Exhaustion and Professional Efficacy subscales were sufficiently internally consistent, but that one Cynicism item should be removed in order to increase the internal consistency beyond the criterion of 0,70. According to them, this might be caused by the ambivalence of the particular item: "I just want to do my job and not be bothered". In their studies, Schaufeli, Leiter and Kalimo (1995) and Leiter and Schaufeli (1996) also found that this item had the lowest factor loadings of the three subscales.

Four studies were found that used the MBI-GS on South African samples. In a sample of senior managers in a manufacturing industry, Rothmann and Jansen van Vuuren (2002) found satisfactory alpha coefficients: Exhaustion = 0,79; Cynicism = 0,84 (after item 13 had been omitted); and Professional Efficacy = 0,84. Rothmann and Malan (2003) found higher alphas (Exhaustion = 0,89; Cynicism = 0,76; Professional Efficacy = 0,85) while Kruger, Veldman, Rothmann and Jackson (2002) found lower alphas for Cynicism (0,72 after item 13 had been

omitted) and Professional Efficacy (0,69). Storm and Rothmann (2003a) found alpha coefficients of 0,88 (Exhaustion), 0,78 (Cynicism) and 0,79 (Professional Efficacy) in a sample of police officers in South Africa.

Confirmatory factor analysis done by Schutte et al. (2000) showed that the three-factor model of the MBI-GS was clearly superior to alternative one-factor and two-factor models. Schaufeli, Salanova et al. (2002) confirmed these findings. Leiter and Schaufeli (1996) employed confirmatory factor analysis using linear structural equation modelling and also confirmed a three-factor structure. Taris, Schreurs and Schaufeli (1999) obtained similar results. However, in a sample of Spanish workers who used computer-aided technologies at their jobs, Salanova and Schaufeli (2000) found a four-factor model of burnout where the Efficacy subscale split into two factors that were labelled "goal attainment" and "self-confidence". According to the authors, this divergent result might have been caused by translation problems or by the specific sample being studied. It seems reasonable to expect that a three-factor structure will be obtained in this study. Confirmatory factor analyses by Rothmann and Jansen van Vuuren (2002), Rothmann and Malan (2003), Kruger et al. (2002) and Storm and Rothmann (2003a) consistently showed low loadings of item 13 on Cynicism.

The three dimensions of the MBI-GS are interrelated: Cynicism is strongly related to Exhaustion ($0,44 < r < 0,61$), and also to Professional Efficacy ($-0,38 < r < -0,57$) (Schaufeli & Buunk, 1996). Taking into consideration the above, it appears that burnout can validly be measured across a range of different occupations, despite the differences between human service occupations and non-contactual professions. According to Taris et al. (1999), the strong resemblance between the two versions of the MBI ensures maximum comparability and generalisability of results obtained for one occupational group to another.

The Utrecht Work Engagement Scale (UWES)

Work engagement can be distinguished but not divorced from burnout in terms of its structure and operationalisation. Work engagement is theoretically viewed as the opposite end of the continuum from burnout, which cannot be effectively measured by the Maslach Burnout Inventory (MBI), but can be with its own survey, the Utrecht Work Engagement Scale (UWES) (Schaufeli, Salanova et al., 2002).

Schaufeli, Salanova et al. (2002) developed the UWES. The UWES measures three dimensions of work engagement: Vigour, Dedication and Absorption. Schaufeli, Salanova et al. (2002) reported acceptable internal consistency for the UWES. Recent confirmatory factor-analytical studies confirmed the factorial validity of the UWES (Schaufeli, Bakker, Hoogduin, Schaap & Kladler, 2001; Schaufeli, Martinez, Pinto, Salanova & Bakker, 2002; Schaufeli, Salanova et al., 2002). The findings showed internally consistent results for the three scales of the UWES. In a sample of undergraduate students (N = 314) and a sample of employees (N = 619), adequate Cronbach alphas were found as follows: Vigour (6 items), α = 0,68 and 0,80; Dedication (5 items), α = 0,91 for both samples and Absorption (6 items), α = 0,73 and 0,75. In the student sample, the value of α could be improved by eliminating three items (α = 0,79). The scales seems to be moderately to strongly related with the mean r = 0,63 in the sample of undergraduate students and the mean r = 0,70 in the sample of employees. Also, the fit of the hypothesised three-factor model with the data was found to be superior to the one-factor solution (Maslach et al., 2001; Schaufeli, Martinez et al., 2002).

In a cross-cultural study regarding the UWES for students in Spain, Portugal and the Netherlands, the factorial validity of the UWES was confirmed and the internal consistency of the scales was found to be satisfactory (Schaufeli, Martinez et al., 2002). Factor loadings of Absorption were found to be invariant across all samples, while factor loadings of Vigour were invariant for only two of the three groups. The three-factor model fit to the data was found to be superior in all three samples after removing three items, namely items 17, 16 and 11. Internally consistent 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).

Concerning the study of UWES in South Africa, two studies regarding the internal consistency and factorial validity could be found in South Africa. In their study, Storm and Rothmann (2003b) found that a re-specified one-factor model (after deleting items 3, 11, 15 and 16) fitted the data the best in their random, stratified sample of police members in South Africa (N = 2396). Although a re-specified three-factor model (deleting items 4 and 14 and allowing items 8 and 9 and items 15 and 16 to correlate) was also initially tested and satisfactory results obtained, the fit with the data was superior for a one-factor model. Internal consistencies of the three subscales were determined at 0,78 (Vigour), 0,89 (Dedication) and 0,78 (Absorption). In an availability sample of emergency workers (N = 405) in the different

regions in Gauteng province in South Africa, Naudé (2003) found that a re-specified three-factor model (after deleting items 15 and 16) fitted the data best. Internal consistencies of the three subscales were determined at 0,70 (Vigour); 0,83 (Dedication) and 0,67 (Absorption).

Since no South African studies of employees in an insurance company could be found that considered the internal consistency and construct validity for the MBI-GS and the UWES, this study is relevant and important. Accordingly, the research hypotheses pertaining to the present study can be formulated as follows:

H1: Burnout, as measured by the MBI-GS, can be defined as a three-dimensional construct, with an equivalent structure for different language groups and acceptable levels of internal consistency for each of its subscales, namely Exhaustion, Cynicism and Professional Efficacy.

H2: Work engagement, as measured by the UWES, can be defined as a three-dimensional construct, with an equivalent structure for different language groups and acceptable levels of internal consistency for each of its subscales, namely Vigour, Absorption and Dedication.

METHOD

Research design

A cross-sectional survey design was used. Cross-sectional designs are appropriate where groups of subjects at various stages of development are studied simultaneously, whereas the survey technique of data collection gathers information from the target population by means of questionnaires (Burns & Grove, 1993).

Study population

The study population could be defined as an availability sample of employees in an insurance company. The total population of 1 100 employees in an insurance company was targeted. A

response rate of 56,5% was achieved, of which 613 responses (98,55%) could be utilised. Descriptive information of the sample is given in Table 1.

Table 1

Characteristics of the Participants

Item	Category	Frequency (Percentage)
Education	Grade 10 (Standard 8)	48 (8,35)
	Grade 12	303 (52,70)
	Grade 12 + Diploma	133 (23,13)
	Grade 12 + Higher Diploma or Degree	68 (11,83)
	Grade 12 + Higher Diploma or Degree (Hons)	16 (2,78)
	Grade 12 + Higher Diploma or Degree (Master's)	7 (1,22)
Division	Actuarial	1 (0,16)
	Finance	2 (0,33)
	Greenlight Underwriters	14 (2,28)
	Group Direct Sales	109 (17,78)
	Human Resources	1 (0,16)
	IL Client Services	256 (41,76)
	ISD / PBS	209 (34,09)
	Marketing	2 (0,33)
	Medical Division	11 (1,79)
	Vision 2002	0
Gender	Male	262 (42,74)
	Female	351 (57,26)
Race	Black	67 (10,95)
	White	281 (45,92)
	Coloured	236 (38,56)
	Asian	28 (4,58)
Marital Status	Single	125 (20,46)
	Engaged or in Close relationship	65 (10,64)
	Married	357 (58,43)
	Divorced	47 (7,69)
	Separated	5 (0,82)
	Remarried	12 (1,96)
Home Language	Afrikaans	208 (34,04)
	English	339 (55,48)
	Other	64 (10,47)

The sample consisted mainly of English-speaking and married females (57,26%) with a Grade 12 school qualification (52,7%). The mean age of the participants was 35,5 years while the average length of service was 7,55 years.

Measuring battery

The Maslach Burnout Inventory – General Survey (MBI-GS) (Maslach & Jackson, 1986; Maslach et al., 1996) and the Utrecht Work Engagement Scale (UWES) (Schaufeli, Salanova et al., 2002) were used in this study. Biographical information was also gathered regarding language, position, education, gender and marital status.

The *Maslach Burnout Inventory – General Survey* (MBI-GS) (Maslach et al., 1996) measures respondents' perceived experience of burnout. The MBI-GS has three subscales: Exhaustion (Ex) (five items, e.g. "I feel used up at the end of the workday"), Cynicism (Cy) (five items, e.g. "I have become less enthusiastic about my work") and Professional Efficacy (PE) (six items, e.g. "In my opinion, I am good at my job"). Together the sub-scales of the MBI-GS provide a three-dimensional perspective on burnout. Internal consistencies (Cronbach coefficient alphas) 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 to 0,84 for Professional Efficacy. Test-retest reliabilities after one year were 0,65 (Exhaustion), 0,60 (Cynicism) and 0,67 (Professional Efficacy) (Maslach et al., 1996). All items are scored on a 7-point frequency-rating scale ranging from 0 (*never*), to 6 (*daily*). High scores on Exhaustion and Cynicism, and low scores on Professional Efficacy are indicative of burnout. Storm (2002) confirmed the 3-factor structure of the MBI-GS in the South African Police Service (SAPS), but recommended that Item 13 be dropped from the questionnaire. She confirmed the structural equivalence of the MBI-GS for different race groups in the SAPS. The following Cronbach alpha coefficients were obtained for the MBI-GS: Exhaustion: 0,88; Cynicism: 0,79; Professional Efficacy: 0,78 (Storm, 2002).

The *Utrecht Work Engagement Scale* (UWES) (Schaufeli, Salanova et al., 2002) measures levels of work engagement. Initially work engagement was viewed as the positive antithesis of burnout, but according to the scale developers, it can be operationalised in its own right. The UWES includes three dimensions, namely vigour, dedication and absorption, which are conceptually regarded as the opposite of burnout and are scored on a seven-point frequency-rating scale, varying from 0 (*never*) to 6 (*every day*). The questionnaire consists of 17 questions and includes questions like "I am bursting with energy every day in my work"; "Time flies when I am at work" and "My job inspires me". The alpha coefficients for the three subscales varied between 0,68 and 0,91. Storm (2002) obtained the following alpha

coefficients for the UWES in a sample of 2 396 members of the South African Police Service: Vigour: 0,78; Dedication: 0,89; Absorption: 0,78. Naudé (2003) obtained the following alpha coefficients in a sample of 405 emergency workers in South Africa: Vigour: 0,70; Dedication: 0,83; and Absorption: 0,67.

Statistical analysis

The statistical analysis was carried out with the SAS program (SAS Institute, 2000). In the first step, means, standard deviations, skewness and kurtosis were determined to describe the data. The reliability and validity of the MBI-GS and UWES were also determined by means of Cronbach alpha coefficients, mean inter-item correlations and their distribution scales, as well as confirmatory factor analysis with the use of the AMOS program (Arbuckle, 1999).

In order to test the factorial validity and construct equivalence of the MBI-GS and UWES for different language groups, structural equation modelling (SEM) methods were used with the maximum likelihood method of the AMOS program (Arbuckle, 1999). According to Jöreskog (1971), all tests of invariance across groups should begin with a global test of the equality of their covariance structures. In testing for these equivalencies, sets of parameters are tested in a logical order and by increasing restrictions in every step. The sets of parameters that are of most interest regarding group variances are: (a) factor loading paths, (b) factor variances/covariances, and (c) structural regression paths, while, according to Bentler (1995) – contradicting the view of Jöreskog – equality of error variances and covariances is generally the least important hypothesis to test, due to the restrictive nature of these tests.

The general procedure for the testing of hypotheses related to group invariance starts with scrutiny of the measurement model. The pattern of factor loadings for each observed measure should be tested first for its equivalence across the groups. Once the group invariances have been identified, these parameters are equally constrained, while subsequent tests of the structural parameters are conducted. While testing each new set of parameters, those known to be group-invariant are equally constrained, thus testing a series of increasingly restrictive hypotheses in an orderly sequence of analytic steps (Byrne, 2001).

Before the factorial invariance can be tested as described above, it is important to consider a baseline model for each group separately, which best fits the data from the perspectives of

both parsimony and substantive meaningfulness. Baseline models need not be completely identical across groups. The number of factors also need not be equivalent across groups (Byrne, 2001), though it is important that the similarly specified parameters within the same factor need to be equated (Werts, Rock, Linn & Jöreskog, 1976). In testing for invariance, however, equality constraints are imposed on particular parameters. Therefore, the data for all groups must be analysed simultaneously to obtain efficient estimates (Bentler, 1995; Jöreskog & Sörbom, 1996).

In the SEM analysis, the hypothesised structural (unobserved, latent factor) relationships were empirically tested by means of goodness of fit with the sample data. By means of the χ^2 statistic and several goodness-of-fit indices the degree of correspondence between the covariance matrices of the hypothesised theoretical structure and the empirical data are compared. However, the χ^2 statistic, if used in isolation, has certain limitations (Jöreskog & Sörbom, 1993). In addressing these limitations, one of the first alternative statistics to be included in the model was the χ^2/degrees of freedom or *CMIN/DF* statistic, which is the minimum discrepancy per degrees of freedom (Wheaton, Muthén, Alwin & Summers, 1977).

Various other alternative or so-called practical or ad hoc indices of fit were utilised in the present study. The Goodness of Fit Index (GFI) indicates the relative amount of variance and co-variance in the sample, predicted by estimates of the population. Its value usually varies between 0 and 1, with values higher than 0,90 indicating good model fit with the data. The Adjusted Goodness of Fit Index (AGFI) indicates the relative amount of variance accounted for by the model, corrected for the number of parameters that needed to be estimated (degrees of freedom) in the model. Both these values are classified as absolute values, because they compare the hypothesised model with no model at all (Hu & Bentler, 1995). Even though both indices vary between 0 and 1, the distribution of AGFI is not known, and consequently no critical value can be obtained (Jöreskog & Sörbom, 1986). The Parsimony Goodness-of-Fit Index (PGFI) adds to a more realistic interpretation of the model but combines the issue of parsimony and goodness of fit by taking into account the amount of variables needed to be determined (Mulaik, James, Van Altine, Bennet, Lindi & Stillwell, 1989). Although this index generally demonstrates lower levels in comparison to the other fit indices at the 0,50 level in comparison to values higher than 0,90, values > 0,80 are considered more appropriate (Byrne, 2001).

The Normed Fit Index (NFI) is used to measure global model fit, giving an indication of the extent to which the hypothesised model compares with the most restricted model where relationships between variables are zero, in other words, a perfectly independent model. This index also varies between 0 and 1 and tends to overestimate fit in smaller samples. The Comparative Fit Index (CFI) also compares the hypothesised and independent models, but takes sample size into account. The Tucker-Lewis Index (TLI) is a relative measure of covariation explained by the hypothesised model and has been specifically designed for the assessment of factor models (Tucker & Lewis, 1973). Critical values for good model fit have been recommended for the NFI, CFI and TLI to be acceptable above the 0,90 level (Bentler, 1992), although recently Hu and Bentler (1999) recommended a cut-off value of 0,95.

Browne and Cudeck (1993) suggested the use of the Root Mean Square Error of Approximation (RMSEA). The RMSEA provides an indication of the overall amount of error in the hypothesised model-data fit, relative to the number of estimated parameters (complexity) in the model. The recommended acceptable levels of the RMSEA should be 0,05 or less and should not exceed 0,08. Hu and Bentler (1999) suggest a value of 0,06 to indicate acceptable fit, whereas MacCallum, Browne and Sugawara (1996) recently suggested values between 0,08 and 1,0 to indicate mediocre fit, and values above 1,0 poor fit.

RESULTS

The factorial validity and construct equivalence of the MBI-GS and the UWES for two language groups were assessed for the groups separately. Structural equation modelling with the aid of the AMOS program (Arbuckle, 1999) was used in order to test the original theoretical factorial model of the MBI-GS (Maslach & Jackson, 1986) with the empirical data, and to test the original theoretical factorial model of the UWES (Schaufeli, Salanova et al., 2002) with the empirical data. The purpose of this analysis was twofold, namely to confirm the factorial model of the MBI-GS and the UWES for different language groups, and to standardise the MBI-GS and the UWES for employees in an insurance company. According to West, Finch and Curran (1995) an inflated χ^2 goodness-of-fit statistic could be obtained if the frequency distribution of items demonstrated deviations from normality as evidenced by elevated skewness (higher than 2,0) and kurtosis (higher than 7,0) levels. In the

present study, however, inspection of the item distribution did not produce possible multivariate outliers and items approaching these critical levels of skewness and kurtosis.

Analysis of the data was done by firstly studying the overall χ^2 goodness-of-fit statistic in conjunction with its degrees of freedom and statistical significance or probability value per language group. Comparative fit indices, such as the Goodness-of-Fit Index (GFI), the Adjusted Goodness-of-Fit Index (AGFI), the Parsimony Goodness-of-Fit Index (PGFI), the Normed-Fit Index (NFI), the Comparative-Fit Index (CFI), the Tucker-Lewis Index (TLI) and the Root Mean Square Error of Approximation (RMSEA) were also utilised to indicate the fit of the original theoretical factorial model of the MBI-GS and the UWES with the empirical data.

In the second step, exploratory model modification analysis was initiated, based on the information gained from the modification indices where misspecifications in the empirical model were found. Alternative model construction and re-specification resulted in the alternative model being fitted to the data and evaluated during the post hoc analysis process. This process continued to the point where an acceptable solution, comparable with previous related studies, could be found.

The full three-factor model of the MBI-GS consisting of 16 items was tested for each language group separately in order to determine construct equivalence. Statistics of the fit between the theoretical model and the empirical data are given in Table 2.

Table 2

Goodness-of-Fit Statistics for the Hypothesised three-factor MBI-GS Model for Employees in an Insurance Company in Different Language Groups

Model	χ^2	χ^2/df	GFI	AGFI	PGFI	NFI	TLI	CFI	RMSEA
Model 1 – Afrikaans and African	286,32	2,84	0,88	0,84	0,66	0,80	0,84	0,86	0,08
Model 2 – Afrikaans and African	145,67	1,71	0,94	0,91	0,66	0,90	0,94	0,95	0,05
Model 1 – English	334,17	3,31	0,89	0,85	0,66	0,85	0,87	0,89	0,08
Model 2 – English	223,05	2,62	0,92	0,89	0,65	0,90	0,92	0,94	0,07

Statistics of the fit between the theoretical model and the empirical data for both language groups are given in Table 2. The χ^2 values of 286,32 ($df = 101$; $p = 0,00$) obtained for the Afrikaans and African language group and of 334,17 ($df = 101$; $p = 0,00$) for the English language group are indicative of a poor overall fit to the theoretical three-factor model of the MBI-GS. The goodness-of-fit indices also support this finding by not reaching the recommended critical values. The PGFI is lower than 0,80 and values lower than 0,90 for GFI, AGFI, NFI, TLI and CFI were found. The RMSEA value is also higher than the recommended value of 0,05. In order to obtain a better fit between the theoretical three-factor model with the population data, modification of the model is needed.

To pinpoint possible areas of misfit, modification indices were examined. Looking at the regression weights, one parameter, which represents the cross-loading of Item 13 on the Cynicism factor, stands apart from the rest and accounts for substantial misspecification of the hypothesised factor loading. This might be caused by the ambivalence of the particular item. Subsequent post hoc analysis is required to re-specify the theoretical model and test it against the empirical data obtained from the population of employees in an insurance company.

The rejection of the postulated theoretical model in the previous section initiated, by implication, a model development process, in other words, an exploratory factor analysis process where the constructs of burnout are studied specifically in the insurance company worker population. Given the high cross-loading levels of item 13, it was decided to re-specify the model by deleting this variable. Also, errors of two item pairs (namely CY14-CY15 and PE11-PE12) were allowed to correlate, given the comparatively high covariance associated with these errors. Although the values associated with the modification indices in this sample are not large in comparison with other related studies (Byrne, 1993, 2001; Leiter & Durup, 1994; Schaufeli & Van Dierendonck, 1993), they do represent significant misspecifications in the model which could be alleviated by allowing these constrained error covariances to correlate within their postulated dimensions in the model, ultimately resulting in a better fit to the data. Subsequent analysis therefore includes only 15 items, labelled Model 2. Fit statistics for Model 2 are presented in Table 2.

The various fit statistics in Table 2 indicate an incremental improvement from the first model fit with the empirical data. With the exception of the PGFI, all fit indices indicated a marginally acceptable fit at best with the data for the Afrikaans and African language group, with $\chi^2 = 145,67$ ($df = 85$; $p = 0,00$). With the exception of the AGFI, PGFI and RMSEA, all fit indices indicate a marginally acceptable fit at best with the data for the English language group, with $\chi^2 = 223,05$ ($df = 85$; $p = 0,00$).

A difference of $\Delta\chi^2_{(16)} = 140,65$ was found between Model 1 and Model 2 for the Afrikaans and African language group and a difference of $\Delta\chi^2_{(16)} = 111,12$ was found between Model 1 and Model 2 for the English language group. Both these differences are substantial. The other fit statistics seem to support an acceptable fit of Model 2 with the empirical data for both language groups. The PGFI, however, is below the acceptable levels of fit. The RMSEA is acceptable for the Afrikaans and African language group, but higher than the 0,05 level for the English language group. Because this model represented acceptable comparative evidence of fit for both language groups between the empirical data and a theoretical model in line with the theoretical premises of the MBI-GS, no further modification of the model was deemed necessary.

Next, tests of invariance in different language groups for the MBI-GS were determined, and these are indicated in Table 3.

Table 3

Goodness-of-Fit Statistics for Tests of Invariance of the MBI-GS for Employees in an Insurance Company in Different Language Groups

Model	Groups	Comparative model	χ^2	*Df*	$\Delta\chi^2$	Δdf	*P*
Hypothesised model (Model 1)	Afrikaans/English/ African		368,70	170	-	-	-
Factor loadings, variances and covariances constrained equally	Afrikaans/ English/ African	Model 1	392,60	190	23,9	20	*NS*

The results in Table 3 shows that construct equivalence exists, with factor loadings, variances and covariances constrained equally among the various language groups. The equality of error covariances was not tested, due to the restrictive nature of the test on the data and the

relative unimportance thereof (Byrne, 2001). These results provide support for part of Hypothesis 1 in that burnout, as measured by the MBI-GS, can be defined as a three-dimensional construct, with an equivalent structure for different language groups.

The full three-factor model of the UWES, consisting of 17 items, was tested for each language group separately. Statistics of the fit between the theoretical model and the empirical data are given in Table 4.

Table 4

Goodness-of-Fit Statistics for the Hypothesised three-factor UWES Model for Employees in an Insurance Company in Different Language Groups

Model	χ^2	χ^2/df	GFI	AGFI	PGFI	NFI	TLI	CFI	RMSEA
Model 1 (one-factor) – Afrikaans and African	430,03	3,61	0,83	0,78	0,64	0,80	0,82	0,85	0,10
Model 2 (one-factor) – Afrikaans and African	302,78	3,44	0,86	0,82	0,63	0,85	0,86	0,89	0,10
Model 1 (one-factor) – English	499,45	4,20	0,84	0,79	0,65	0,81	0,83	0,85	0,10
Model 2 (one-factor) – English	324,73	3,69	0,88	0,84	0,65	0,87	0,88	0,90	0,09
Model 1 (three-factor) – Afrikaans and African	360,31	3,11	0,85	0,80	0,65	0,83	0,86	0,88	0,09
Model 2 (three-factor) – Afrikaans and African	250,87	2,92	0,88	0,84	0,63	0,87	0,89	0,91	0,08
Model 1 (three-factor) – English	433,04	3,73	0,86	0,81	0,65	0,84	0,85	0,88	0,09
Model 2 (three-factor) – English	319,35	3,71	0,88	0,83	0,63	0,87	0,88	0,90	0,09
Model 1 (adjusted) – Afrikaans and African	297,46	3,42	0,87	0,82	0,63	0,87	0,88	0,90	0,09
Model 2 (adjusted) – Afrikaans and African	165,37	2,76	0,91	0,87	0,60	0,91	0,93	0,94	0,08
Model 1 (adjusted) – English	314,97	3,62	0,88	0,84	0,64	0,87	0,88	0,90	0,09
Model 2 (adjusted) – English	127,97	2,13	0,95	0,92	0,62	0,94	0,96	0,97	0,06

First, a unidimensional model, which assumes that all 17 UWES items load on one single factor, was tested. Table 4 provides a summary of the fit statistics for the hypothesised one-factor model. This model, however, revealed very poor overall fit, as indicated by the statistically significant χ^2 value of 430,03 ($df = 119$; $p = 0,00$) for the Afrikaans and African language group and 499,45 ($df = 119$; $p = 0,00$) for the English language group. All the other

fit indices confirmed a poor fit with the data. In order to obtain a better fit between the theoretical one-factor model with the population data, modification of the model is needed.

To pinpoint possible areas of misfit, modification indices were examined. Looking at the regression weights, items 16 and 17 demonstrated comparatively low values. The standardised residual covariances confirmed the problematic nature of items 16 and 17, with loadings higher than 2,58. Standardised residuals are analogous to *z* scores and make for easy interpretation, because numerically they represent the number of standard deviations the observed residuals are from the zero residuals that would exist in a perfect model fit with the data (Byrne, 2001). Values > 2,58 are considered to be large. These values are typically obtained by dividing the residuals of fit with their asymptotical standard errors in large samples (Jöreskog & Sörbom, 1988).

The rejection of the postulated theoretical model in the previous section initiated, by implication, a model development process, in other words an exploratory factor analysis process where the constructs of work engagement are studied specifically in the insurance company worker population. Given the high cross-loading levels of items 16 and 17, it was decided to re-specify the model by deleting these variables. Also, errors of two item pairs (i.e. 1-4 and 11-12) were allowed to correlate, given the comparatively high covariance associated with these errors. Although the values associated with the modification indices in this sample are not large in comparison with other related studies (Byrne, 1993, 2001; Leiter & Durup, 1994; Schaufeli & Van Dierendonck, 1993), they do represent significant misspecifications in the model which could be alleviated by allowing these constrained error covariances to correlate within their postulated dimensions in the model, ultimately resulting in a better fit to the data.

Subsequent analysis therefore includes only 15 items, labelled Model 2. Fit statistics for Model 2 are presented in Table 4. The various fit statistics in Table 4 indicate an incremental improvement from the first model fit with the empirical data. This model, however, still revealed very poor overall fit as indicated by the statistically significant χ^2 value of 302,78 ($df = 88$; $p = 0,00$) for the Afrikaans and African language group and 324,73 ($df = 88$; $p = 0,00$) for the English language group. All the other fit indices confirmed a poor fit with the data.

Subsequently, the hypothesised 17-item three-factor UWES model was fitted with the data. In Table 4 the fit statistics are provided for the fit between the original model and the empirical data for both language groups.

Statistics of the fit between the theoretical three-factor model and the empirical data for both language groups is given in Table 4. The χ^2 value of 360,31 ($df = 116$; $p = 0,00$) obtained for the Afrikaans and African language group, and of 443,04 ($df = 116$; $p = 0,00$) for the English language group, is indicative of a poor overall fit to the theoretical three-factor model of the UWES. The goodness-of-fit indices also support this finding by not reaching the recommended critical values. The PGFI is lower than 0,80 and values lower than 0,90 for GFI, AGFI, NFI, TLI and CFI were found. The RMSEA value is also higher than the recommended value of 0,05. In order to obtain a better fit of the theoretical three-factor model with the population data, modification of the model is needed.

To pinpoint possible areas of misfit, modification indices were examined. Looking at the regression weights, items 16 and 17 demonstrated comparatively low values. The standardised residual covariances confirmed the problematic nature of items 16 and 17, with loadings higher than 2,58. Given the high cross-loading levels of items 16 and 17, it was decided to re-specify the model by deleting these variables. Also, errors of one item pair (i.e. VI1-VI4) were allowed to correlate, given the comparatively high covariance associated with these errors.

Subsequent analysis therefore includes only 15 items, labelled Model 2. Fit statistics for Model 2 are presented in Table 4. The various fit statistics in Table 4 indicate an incremental improvement from the first model fit with the empirical data. The difference between Model 1 ($\Delta\chi^2_{(116)} = 360,31$) and Model 2 ($\Delta\chi^2_{(86)} = 250,87$) is $\Delta\chi^2_{(30)} = 109,44$ for the Afrikaans and African language groups and the difference between Model 1 ($\Delta\chi^2_{(116)} = 433,04$) and Model 2 ($\Delta\chi^2_{(86)} = 319,35$) is $\Delta\chi^2_{(30)} = 113,69$ for the English language group. These differences are substantial. The goodness-of-fit indices do not reach the recommended critical values. The PGFI is lower than 0,80, and except for the CFI, values lower than 0,90 for the fit indices were found. The RMSEA value is also higher than the recommended value of 0,05.

These findings could possibly be explained in terms of the possibility of semantic differences in terms of understanding the content of the items by the different language groups. It is possible that certain items were misunderstood by some of the language groups, which led to inconsistent responses by the different language groups in this sample. Therefore some items were replaced with items that were written in a more familiar South African vocabulary, in order to address the possible semantic problems. Item 4 ("I feel strong and vigorous in my job.") was replaced with item 19 ("I feel strong and full of energy in my work."). Item 9 ("I feel happy when I am engrossed in my work.") was replaced with item 18 ("I feel happy when my attention is totally focused on my work."). Item 11 ("I am immersed in my work.") was replaced with item 21 ("I enjoy devoting all my attention and energy to my work."). Item 15 ("I am very resilient, mentally, in my job.") was replaced with item 20 ("In my job I can comfortably deal with stressful situations and I easily recover from such situations.").

The adjusted three-factor model was fitted with the data. In Table 4 the fit statistics are provided for the fit between the adjusted model and the empirical data for both language groups. According to Table 4, it is evident that the SEM analysis yielded a marginal fit at most between the theoretical model and empirical data for both language groups. The statistically significant χ^2 value of 297,46 ($df = 87$; $p = 0,00$) for the Afrikaans and African language group and 314,97 ($df = 87$; $p = 0,00$) for the English language group, along with the relatively low PGFI and elevated RMSEA values, indicate possible existing misspecifications in the theoretical model. None of the fit indices, except the CFI, reached the recommended critical values. Since model fit was not acceptable, further modification of the model was deemed necessary.

Inspection of the standardised residual covariances led to the identification of item 14 with two loadings > 2,58 for the Afrikaans and African language groups and one loading > 2,58 for the English language group, and of item 20 with one loading > 2,58 for the English language group. Also, errors of two item pairs (i.e. DE7-DE13 and AB3-AB21) were allowed to correlate, given the comparatively high covariance associated with these errors. Having identified possible areas of misspecification in the model, modification of the adjusted model is needed.

The theoretical model was re-specified by deleting items 14 and 20. The various fit statistics in Table 4 indicate a marginal improvement from the adjusted model fit with the empirical data with a significant χ^2 value of 165,37 ($df = 60$; $p = 0,00$) for the Afrikaans and African language group, and of 127,97 ($df = 60$; $p = 0,00$) for the English language group. All of the indices, except the AGFI (for the Afrikaans and African language group), the PGFI (for both language groups) and the RMSEA (for both language groups), reached the recommended critical values. Disappointing was the lowered level of the PGFI, which is understandable, considering that 4 items had been replaced due to semantic problems and 4 items had been deleted from the initial theoretical model postulated by Schaufeli, Salanova et al. (2002). A difference of $\Delta\chi^2_{(17)} = 132,09$ for the Afrikaans and African language group and $\Delta\chi^2_{(17)} = 187,00$ for the English language group was found between Model 1 and Model 2, which is significant. Because this model represented acceptable comparative evidence of fit for both language groups between the empirical data and a theoretical model in line with the theoretical premises of the UWES, no further modification of the model was deemed necessary.

Next, tests of invariance in different language groups for the UWES were determined, and these are indicated in Table 5.

Table 5

Goodness-of-Fit Statistics for Tests of Invariance of the UWES for Employees in an Insurance Company in Different Language Groups

Model	Groups	Comparative model	χ^2	*Df*	$\Delta\chi^2$	Δdf	*P*
Hypothesised model: one-factor UWES (Model 1)	Afrikaans/English/ African		627,53	176	-	-	-
Factor loadings constrained equally	Afrikaans/English/ African	Model 1	674,89	191	47,36	15	$p < 0,01$
Model 1 with error covariances constrained equally	Afrikaans/English/ African	Model 1	678,13	193	50,60	17	$p < 0,01$
Hypothesised model: three-factor UWES (Model 1)	Afrikaans/English/ African		570,21	172	-	-	-
Factor loadings, variances and covariances constrained equally	Afrikaans/English/ African	Model 1	632,12	191	61,91	19	$p < 0,01$
Factor loadings constrained equally	Afrikaans/English/ African	Model 1	613,54	184	43,33	12	$p < 0,01$
Factor loadings on VI constrained equally	Afrikaans/English/ African	Model 1	590,99	176	20,78	4	$p < 0,01$
Factor loading of item 1 on VI constrained equally	Afrikaans/English/ African	Model 1	572,30	173	2,09	1	NS
Factor loadings of items 1 and 4 on VI constrained equally	Afrikaans/English/ African	Model 1	575,64	174	5,43	2	NS
Factor loadings of items 1, 4 and 8 on VI equal constrained (Model 2)	Afrikaans/English/ African	Model 1	577,09	175	6,88	3	NS
Factor loadings of items 1, 4, 8 and 12 on VI constrained equally	Afrikaans/English/ African	Model 1	590,99	176	20,78	4	$p < 0,01$
Model 2 with Factor loadings on DE constrained equally	Afrikaans/English/ African	Model 2	594,19	179	17,10	4	$p < 0,01$
Model 2 with Factor loadings of item 2 on DE constrained equally	Afrikaans/English/ African	Model 2	577,15	176	0,06	1	NS
Model 2 with Factor loadings of items 2 and 5 on DE constrained equally	Afrikaans/English/ African	Model 2	577,90	177	0,81	2	NS
Model 2 with Factor loadings of items 2,5 and 7 on DE constrained equally (Model 3)	Afrikaans/English/ African	Model 2	578,40	178	1,31	3	NS
Model 2 with Factor loadings of items 2,5,7 and 10 on DE constrained equally	Afrikaans/English/ African	Model 2	594,19	179	17,10	4	$p < 0,01$
Model 3 with factor loadings on AB constrained equally (Model 4)	Afrikaans/English/ African	Model 3	584,92	182	6,52	4	NS
Model 4 with error covariances constrained equally	Afrikaans/English/ African	Model 4	592,93	183	8,01	1	$p < 0,01$
Model 4 with covariances constrained equally	Afrikaans/English/ African	Model 4	599,34	185	14,42	3	$p < 0,01$
Hypothesised model: three-factor adjusted UWES (Model 1)	Afrikaans/English/ African		293,36	120	-	-	-
Factor loadings, variances and covariances constrained equally	Afrikaans/ English/ African	Model 1	354,36	138	61,00	18	$p < 0,01$
Factor loadings constrained equally	Afrikaans/ English/ African	Model 1	329,76	130	36,40	10	$p < 0,01$
Factor loadings on VI constrained equally (Model 2)	Afrikaans/English/ African	Model 1	301,27	123	7,91	3	NS
Model 2 with factor loadings on DE constrained equally	Afrikaans/English/ African	Model 2	320,81	127	19,54	4	$p < 0,01$
Model 2 with factor loading of item 2 on DE constrained equally	Afrikaans/English/ African	Model 2	301,29	124	0,02	1	NS
Model 2 with factor loading of item 2 and 5 on DE constrained equally	Afrikaans/English/ African	Model 2	301,70	125	0,43	2	NS
Model 2 with factor loading of item 2, 5 and 7 on DE constrained equally (Model 3)	Afrikaans/English/ African	Model 2	302,14	126	0,87	3	NS
Model 2 with factor loading of item 2, 5, 7 and 10 on DE constrained equally	Afrikaans/English/ African	Model 2	320,81	127	19,54	4	$p < 0,01$
Model 3 with factor loadings on AB constrained equally (Model 4)	Afrikaans/English/ African	Model 3	311,20	129	9,06	3	NS
Model 4 with error covariances constrained equally (Model 5)	Afrikaans/English/ African	Model 4	315,44	131	4,24	2	NS
Model 5 with covariances constrained equally	Afrikaans/English/ African	Model 5	335,49	134	20,05	3	$p < 0,01$

A difference of $\Delta\chi^2_{(18)} = 61{,}00$ was found between the hypothesised adjusted three-factor UWES model (Model 1) and the hypothesised model with factor loadings, variances and covariances constrained equally. This difference is statistically significant ($p < 0{,}01$). The different factor loadings were then separately constrained and tested against Model 1. Model 2 (Model 1 with factor loadings on Vigour constrained equally) displayed a difference of $\Delta\chi^2_{(3)} = 7{,}91$ with Model 1, which is non-significant. Model 3 (Model 2 with factor loadings of items 2, 5 and 7 on Dedication constrained equally) displayed a difference of $\Delta\chi^2_{(3)} = 0{,}87$ with Model 2, which is non-significant. Model 4 (Model 3 with factor loadings on Absorption constrained equally) displayed a difference of $\Delta\chi^2_{(3)} = 9{,}06$ with Model 3, which is non-significant. Model 5 (Model 4 with error covariances constrained equally) displayed a difference of $\Delta\chi^2_{(2)} = 4{,}24$ with Model 4, which is non-significant. A difference of $\Delta\chi^2_{(3)} = 20{,}05$ were found between Model 5 and Model 5 with covariances constrained equally.

The results in Table 5 shows that construct equivalence exist between the various language groups. The error covariances for the different language groups were not equivalent for the different language groups, but Byrne (2001) indicates that the equality of error covariances test has a restrictive nature on the data and is relatively unimportant. These results provide support for part of Hypothesis 2 in that work engagement, as measured by the UWES, can be defined as a three-dimensional construct with an equivalent structure for different language groups.

The descriptive statistics, alpha coefficients and inter-item correlations of the three factors of the MBI-GS and the three factors of the UWES are given in Table 6.

Table 6

Descriptive Statistics, Alpha Coefficients and Inter-Item Correlations of the MBI-GS and the UWES

Item	Mean	*SD*	Skewness	Kurtosis	*r*(Mean)	α
MBI-GS						
Exhaustion	15,11	0,05	-0,02	-0,58	0,54	0,86
Cynicism	9,16	0,11	0,20	-0,67	0,50	0,80
Professional Efficacy	28,68	0,09	-0,87	0,39	0,36	0,76
UWES						
Vigour	19,93	0,10	-0,58	-0,17	0,45	0,80
Dedication	15,63	0,06	-0,65	-0,28	0,62	0,87
Absorption	17,35	0,10	-0,93	0,94	0,38	0,69

The information in Table 6 indicates that the factors of the MBI-GS and the factors of the UWES are normally distributed. With regard to the internal consistency of the scales, Exhaustion, Cynicism, Professional Efficacy, Vigour and Dedication seem to demonstrate acceptable coefficient alphas above the 0,70 guideline provided by Nunnally and Bernstein (1994). Furthermore, except for Exhaustion (factor of the MBI-GS) and Dedication (factor of UWES), acceptable levels of inter-item correlations were obtained for all the rest of the factors, consistent with the guideline of $0,15 < r < 0,50$ suggested by Clark and Watson (1995).

These results provide support for the aspect of internal consistency of Hypothesis 1 and 2.

DISCUSSION

The aim of this study was to investigate the psychometric properties of the MBI-GS and the UWES for employees in an insurance company in South Africa. The psychometric soundness of the MBI-GS and UWES was tested. Firstly, the results obtained using the structural equation modelling approach supported a three-dimensional factor structure of the MBI-GS, as has been consistently found across various samples, occupational groups and countries (Leiter & Schaufeli, 1996; Schaufeli, Salanova et al., 2002; Schutte et al., 2000; Storm, 2002; Taris et al., 1999). The three-dimensional factor structure of the UWES was also confirmed

via structural equation modelling analysis, a finding supported by research in different samples, groups and countries (Naudé, 2003; Schaufeli, Martinez et al., 2002; Schaufeli, Salanova et al., 2002; Storm & Rothmann, 2003b). Also, reliability analysis confirmed sufficient internal consistency of the subscales of the MBI-GS and the UWES.

Based on both conceptual and empirical grounds, item 13 ("I just want to do my job and not be bothered") was eliminated from the original MBI-GS, resulting in a 15-item scale being fitted to the data in the post hoc analysis. This is consistent with the study of Storm (2002), where item 13 was deleted to confirm the three-factor structure of the MBI-GS in a sample of 2 396 members of the South African Police Service (SAPS), but recommended that Item 13 be dropped from the questionnaire. Schutte et al. (2000) also excluded this item from a cross-national study of the factorial validity of the MBI-GS. According to these authors problems might be caused by the ambivalent nature of this item. On the one hand, a high score may indicate disengagement and social isolation by closing oneself off from contacts with others at work. On the other hand, a higher score may indicate strong motivation and work engagement: one concentrates on the task and does not want to be interrupted. Therefore, although the deletion of item 13 was part of the post hoc analysis, and validation is needed in future studies, the decision to eliminate this item is consistent with previous research (Schutte et al., 2000; Storm, 2002) and should not be regarded as a model specification for the sole purpose of data fitting.

In examining the factor structure, some undesirable psychometric characteristics were found to be associated with several items of the UWES. Items 16 and 17 (in the initial three-factor model) and items 14 and 20 (in the adjusted three-factor model) showed high standardised residual errors. Additionally, these items had the highest modification indices. These findings suggest that the items may require either deletion or content modification, in which instance the latter must rather be considered. The particular items may be problematic because they do not correspond to the conceptual domain of the particular dimension. However, it is more likely that they are somewhat ambiguous, or that they are either sample- or country-specific.

The deletion of items from the UWES for reasons of bias and model-fit improvement resulted in the sacrifice of model parsimony, in other words, relationships have been eliminated which could be viewed as an erosion in meaning of the work engagement construct. Also, it is

possible, due to the relatively small sample size and sampling procedure (subgroup representation), that these findings could have been obtained by pure chance.

Also, the problems of some of the items may be related to difficult words that some of the participants could have found difficult to understand and/or interpret (e.g. vigorous, immersed and resilient). This resulted in the adjustment of the initial UWES questionnaire with the replacement of items 4, 9, 11 and 15 respectively with items that were written in a more familiar South African vocabulary.

The prominent correlated errors in this study presented another problem. In general, the specification of correlated error terms for the purpose of achieving a better-fitting model is not an acceptable practice. Correlated error terms in measurement models represent systematic, rather than random, measurement error in item responses. They may derive from characteristics specific either to the items or the respondents (Aish & Jöreskog, 1990). For example, if these parameters reflect item characteristics, they may represent a small omitted factor. However, as may be the case in this instance, correlated errors may represent respondent characteristics that reflect bias such as yea-/nay-saying, social desirability (Aish & Jöreskog, 1990), as well as a high degree of overlap in item content (when an item, although worded differently, essentially asks the same question) (Byrne, 2001).

Previous research with psychological constructs in general (e.g. Jöreskog, 1982; Newcomb & Bentler, 1988; Tanaka & Huba, 1984), and with measuring instruments in particular (Byrne, 1988, 2001), has demonstrated that the specification of correlated errors can often lead to substantially better fitting models. Bentler and Chou (1987) also argue that the specification of a model that forces these error parameters to be uncorrelated is rarely appropriate with real data. Therefore, it was considered more realistic to incorporate the correlated errors in this study, rather than to ignore their presence.

It is believed that this confusing state of affairs regarding the UWES does not reflect weaknesses inherent in 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 data based on samples of individuals in the Netherlands (Schaufeli & Bakker, 2001). Despite a few studies of the UWES in South Africa (e.g. Naudé,

2003; Storm & Rothmann, 2003b), more research regarding work engagement in different occupational settings in South Africa is required. Schaufeli, Martinez et al. (2002) also found that the hypothesised three-factor model of work engagement was invariant across Spanish, Dutch and Portuguese samples. Furthermore, the dimensionality of the UWES could be influenced because of the high reported correlations between the three dimensions. Explicit theory indicating exactly how the three sub-scales relate to one another and to other variables must be developed before one can evaluate thoroughly the theoretical validity of a three-component conceptualisation.

In conclusion, the results of this study could serve as a standard for measuring burnout and work engagement levels of employees in an insurance company. The three-factor structure of the MBI-GS and the UWES is largely confirmed with suitable internal consistency of its subscales of Emotional Exhaustion, Cynicism, Professional Efficacy, Vigour, Dedication and Absorption. The results further show that the MBI-GS is a suitable instrument for measuring burnout and the UWES a suitable instrument for measuring work engagement of employees in an insurance company. Further possibilities in terms of research are made possible along similar lines.

This study had several limitations. First, self-report measures were exclusively relied upon. Future studies conducted in this manner would confirm whether bias and equivalence do indeed exist for the different language groups. Also, items of the UWES were allowed to correlate in the model specification. This may impose interpretation problems on the UWES because, as correlated error terms are added to the model, the correspondence between the posited construct of interest and the empirically defined factor becomes unclear (Gerbing & Anderson, 1984). Another limitation is the size of the sample, specifically the distribution of language groups and the sampling procedure in the present study, which has significant limitations in terms of the generalisation of the findings applied to the total study population. Future studies could benefit hugely in terms of a stratified random-sample design, which would ensure sufficient representation of the different groups in the total population of employees in an insurance company.

RECOMMENDATIONS

According to the results obtained in this study, the use of the MBI-GS is recommended to assess burnout and the UWES to assess work engagement in employees in an insurance company. In the MBI-GS, item 13 should be omitted from the questionnaire and in the UWES, items 14, 16 and 17 should be omitted from the questionnaire in the multicultural context. Item 20 was an item that replaced item 15 due to semantic problems and may therefore need to be rewritten in a more acceptable South African language format.

It is suggested that future research focus on the reliability and validity of the MBI-GS and the UWES for other occupational settings, as the MBI-GS and the UWES were found to be reliable and valid for this sample specifically. It is also important to determine norm levels for other occupations in South Africa for both questionnaires respectively. It is recommended that larger samples with a more powerful sampling method be utilised to enable generalisation of the findings to other similar groups. Also, the use of adequate statistical methods, such as structural equation modelling, equivalence and bias analysis is recommended. It might also be necessary to translate the MBI-GS and the UWES into other languages used in South Africa.

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CHAPTER 3

RESEARCH ARTICLE 2

OCCUPATIONAL STRESS OF EMPLOYEES IN AN INSURANCE COMPANY *

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ABSTRACT

The objectives of this study were to determine the construct validity and internal consistency of the ASSET and to identify occupational stressors for employees in an insurance company. A cross-sectional survey design was used. An availability sample (N = 613) of employees in an insurance company was used. The results confirmed the construct validity and internal consistency of the ASSET. Physical and psychological health was found to be the major outcome of perceived stress, while commitment from the organisation to the individual and commitment from the individual to the organisation were perceived as high. Occupational stress explained 27% of the variance in physical and psychological ill health. Commitment from the individual to the organisation moderated the effects of occupational stress on physical and psychological health.

OPSOMMING

Die doelstellings van hierdie navorsing was om die konstrukgeldigheid en interne konsekwentheid van die ASSET te bepaal en beroepstressors vir werknemers in 'n versekeringsmaatskappy te identifiseer. 'n Dwarssneeopname-ontwerp is gebruik. Die studiepopulasie is met behulp van 'n beskikbaarheidsteekproef (N = 613) van werknemers in 'n versekeringsmaatskappy verkry. Die resultate het die konstruk-geldigheid en interne konsekwentheid van die ASSET bevestig. Daar is gevind dat fisieke en psigologiese gesondheid die belangrikste gevolg was van waarneembare stres, terwyl toewyding van die organisasie aan die individu en van die individu aan die organisasie as hoog beskou is. Werkstres verklaar 27% van die variansie in fisieke en psigologiese gesondheidsprobleme. Toewyding van die individu aan die organisasie matig die effek van werkstres op fisieke en psigologiese gesondheid.

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Due to rapid economic growth, urbanisation and popular education (Chan, 2002) the insurance industry expanded considerably in the 19th century, resulting in acute competitiveness and rivalry between companies (Chan, 2002; Lai, Chan, Ko & Boey, 2000). The impact of this competitiveness is felt amongst employees in the insurance industry by engendering general feelings of distrust, tension, strain in interpersonal relations, jealousy from colleagues, interpersonal conflicts and coping with sustained pressure to produce/perform (Lai et al., 2000).

In a survey done in Singapore among 2 589 employees in 1990, performance pressure and work-family conflicts were found to be the most important contributing sources of work stress among employees in the insurance industry (Chan, Lai, Ko & Boey, 2000). Other sources of stress within the insurance industry were related to possibilities of dealing with demanding or difficult clients, the employees' ability to survive in the insurance business and to achieve their career goals, time pressures and meeting deadlines, working continually to achieve targets, mental strain of work and work overload (Lai et al., 2000). Whilst the first two were perceived as a threat to the self-esteem, the latter ones were more associated with job demands. It seems that the overall perception of work stress by employees within the insurance industry was associated with work demands, lack of job security and the need to maintain a professional self (Lai et al., 2000).

Within the work setting the costs of stress to the worker and the company often manifests itself in the form of lower productivity, absenteeism and higher turnover (Beehr, 1995; Jones & Bright, 2001). Stress as a social phenomenon (Lai et al., 2000) is a reality of life. It is unavoidable, good and bad, constructive and destructive. The potential direct and indirect costs of stress to the organisation and employees command more than adequate attention, especially if the negative effects thereof are taken into account, i.e. diminishing levels of customer service, health problems, industrial accidents, alcohol and drug usage and purposefully destructive behaviours such as spreading of rumours and stealing (Cooper & Payne, 1988; Karasek & Theorell, 1990; Levi, 1981; Matteson & Ivancevich, 1982; Perrewé, 1991; Quick, Quick, Nelson & Hurrell, 1997; Wright & Smye, 1996). According to the above researchers it seems that individuals' immediate reaction to stressors within the work environment may result in positive (warming up, increased performance, learning), neutral, or negative (over-, under-taxing) short-term, reversible consequences, depending on an

individual's personal resources and his/her perception of the situation (Demerouti, Bakker, Nachreiner & Ebbinghaus, 2002).

When one thinks of the effects of stress on an individual and ultimately on the organisation and attempts to identify possible outcomes, the "fight or flight" metaphor is typically recognised (Rowe, 2000). This can be due to the characteristic definition of stress within the behavioural paradigm in terms of the stimulus-response connections (Hetherington, 1984). Stress can be described as the stimulus or force that, if sufficiently strong, may cause tension in the individual who experiences it. The response is coping with or adapting to the stimulus, which may be either successful or unsuccessful. Stressful events lead to a strain reaction (Rowe, 2000). Strain (ill health) arises when individuals perceive themselves as unable to meet environmental demands (Taris, Schreurs & Van Iersel-Van Silfout, 2001). The short-term effects of strain develop as an immediate reaction to specific working conditions (Demerouti et al., 2002). Persistent or chronic strain may lead to exhaustion and psychological or physical distress, which are potential antecedents of burnout (Maslach, 1978; Taris et al., 2001). Cherniss (1980) indicated that burnout (the long-term effect of strain) develops only after repeated, prolonged and unsuccessful confrontations with stressful conditions.

With the increasing demands placed upon employees as well as corporate downsizing, many employees regularly experience high levels of stress (Rowe, 2000). Nonetheless, it is striking that many individuals remain healthy during stressful conditions. This is believed to be a consequence of "resistance resources" that somehow compensate for the potential crippling effects of stress-provoking events (Antonovsky, 1979). Demerouti et al. (2002) found that employees who distance themselves from their work may also disengage from stress-inducing work situations and in that way may report less experienced stress. It also seems that individuals who perceive that they can control their environment are less likely to suffer the consequences of stress (Makin, Cooper & Cox, 1996). Westman and colleagues found that sense of control moderated the stress-burnout relationship, and that hardiness buffered the effects of occupational stress (Etzion & Westman, 1994; Westman, 1990).

Meyerson (1994) and Handy (1988) point out that an important consideration in terms of stress research should be that stress occurs in a particular context, since individuals differ in the meaning they attribute to stressful experiences. Therefore, the influence of the social

construction of stressful experiences should be taken into account. According to Spielberger and Vagg (1999), the identification of major sources of stress at work offers a twofold benefit for both management and employees: firstly, by resulting in work environment changes that reduce stress and increase productivity; and secondly, by facilitating the development of effective interventions that could reduce the debilitating effects of occupational stress.

The objectives of this study were to validate a suitable instrument for the early identification of stressors experienced by employees in an insurance company, to determine the stressors endemic to insurance companies and its effect on the wellness of employees, and to determine whether organisational commitment will have a moderating effect on occupational stress.

Occupational stress

Occupational stress is becoming a fact of life for many individuals and, as the balance between work and home life worsens, its toll on employees' health and happiness is becoming heavier (Sutherland & Cooper, 2000). The term stress has been defined in various ways. It has been used to refer to demands which require the individual to re-adjust his or her usual behavioural patterns (Holmes & Rahe, 1967), or to the state of physiological or emotional arousal that results from the perception of demands (Lazarus & Folkman, 1984; Thoits, 1995). Work stress is seen as the emotional response to work-related events and situations and may be manifested psychologically, physically and behaviourally (Lai et al., 2000).

However, in the majority of stress theories and models, stress is described as a series of factors that have their beginnings in one's actual surroundings and conclude with the individual's reactions (Rothmann, Jackson & Kruger, 2003). The individual forms a conception of the objective situation through his or her subjective interpretation of the situation (Beehr, 2000). The stress process involves an interaction between the individual and the environment where the discrepancy between an individual's perceived threats and the resources he or she sees as available for facing the threats leads to the experience of stress (Cooper, 2000). By means of weighing the demands/threats against the available resources, an individual makes an evaluation of the situation and forms an impression of its significance. This appraisal is then followed by immediate reactions. Both appraisals of and

reactions to a given situation vary from individual to individual. A work situation is stressful if the respondent has experienced it and perceived it to be stressful, whilst a situation is not stressful for the respondent if he or she has not experienced it or does not perceive the experience to be stressful (Lai et al., 2000).

Lu (1999) argued that stress has become one of the most serious health issues, a problem not just for individuals but also for employers. Research over the past three decades has shown that the experience of occupational stress is closely related to the health and safety of individuals and has definite implications for the well-being of organisations or institutions (Rees, 1995; Rees & Redfern, 2000). A recent epidemiological survey conducted in the United Kingdom (Jones & Hodgson, 1998) concluded that stress was the second most frequently reported condition of individuals who disclosed a work-related illness. Moreover, occupational stress has now become one of the commonest reasons for medical retirement (Cooper & Cartwright, 1994). It is evident, however, that in order for any organisation to address stress-related issues and implement effective interventions, it is necessary to diagnose job characteristics and working conditions that the workforce perceive to be stressful, investigate the outcomes of any stressors that are experienced and establish whether any particular sub-group of the working population is at greater risk (Kinman, 2001).

As mentioned, studies have shown that occupational stressors may result in psychological, physical and behavioural stress reactions, such as burnout, depression and psychosomatic diseases (Houkes, Janssen, de Jonge & Nijhuis, 2001; Lai et al., 2000). According to the findings of Mills and Huebner (1998) and Schaufeli and Enzmann (1998), there is significant evidence that occupational stress could considerably influence the experience of burnout. The link between unmanaged stress and its negative impact on health and well-being is well demonstrated in stress research and is linked to severe physical consequences, some of which may be fatal (Winefield, Gillispie, Stough, Dua & Hapuararchchi, 2002).

Various models exist that may be used to conceptualise occupational stress. In the Person-Environment Fit theory (French, Caplan & Harrison, 1982) stress in work settings is attributed to the interaction of an individual with his or her work environment. The Job Demand-Control Model (Karasek & Theorell, 1990) focuses on the interactions between the

pressures or demands of the work environment and the decision-making scope of the employee in fulfilling the requirements of a job. The transactional approach as offered by Lazarus (1991) views the interaction between the individual and his or her environment as a transaction, allowing for the individual's cognitive appraisal of stressful situations and the selective identification and utilisation of coping resources.

According to Dewe, Cox and Ferguson (1993), stress is not a factor that resides in either the individual or the environment; rather, it is viewed as a dynamic cognitive state where the individual interaction with the environment can be described as an ongoing transaction. The term *transaction* implies "that stress is neither in the person nor in the environment but in the relationship between the two" (Cooper, Dewe & O'Driscoll, 2001, p. 12). Therefore, Siu (2002) argued that a stressful transaction occurs when persons both exert an impact on and respond to their environment. Following a transactional perspective, stress arises when the demands of a particular encounter (as appraised by the individual) is about to exceed the available resources, thereby threatening the well-being of (Lazarus, 1991) and bringing about change in the person's psychological and/or physiological condition in order to cope with the encounter (Cooper et al., 2001; Siu, 2002). Stress is therefore, an ongoing process that involves the individual's transacting with his/her environment, while assessing the encounter and trying to cope with the issues that arise.

In their study on insurance agents, Lai et al. (2000) found that when gender, education, age and work experience in the organisation and the position are controlled, factors such as work pressures, uncertain job prospects and professionalism contributed significantly to the overall experience of work stress, with work demands standing out as the most important source of work stress. In this regard work experience in the organisation (i.e. length of service) tends to enhance job satisfaction (Lai et al., 2000), ultimately reducing the experience of stress. It may be due to a result of self-selection in that those employees who are not satisfied might have already left the organisation or even the profession. However, Preuss and Schaeke (1998) found no relationship between age, experience and level of perceived strain.

Regarding the experience of stress, research has indicated that occupational groups experience stressors in different ways. In this regard Naudé and Rothmann (2003) found in

their research on emergency workers that there are differences in the experience of stress according to a specific position or job category.

There are factors that may either alleviate or aggravate the experiences and reactions of an individual towards a stressor. In the behavioural sciences, these factors are referred to as moderators, which mean that they moderate or affect the relation between the stressor and its consequences (Rothmann et al., 2003). Recently, organisational commitment has been identified as a significant moderator of stress (Siu, 2002). Organisational commitment was not only related to most of the physical and psychological outcomes among workers, but also to the moderating affects on the stressor-health relationship (Siu, 2002). Lai et al. (2000) also indicated in their research that psychological hardiness as a personality construct taps three personality constructs, of which commitment (to work/profession) is one. They have found in their study that some insurance employees possess of considerable personality-resistance resources, such as self-esteem and psychological hardiness (and therefore commitment), which allow them to withstand hardships arising from the job. Organisational commitment interacts with sources of stress at work to determine their outcomes. Siu (2002) argued that this indirect or moderating effect of commitment protects individuals from the negative effect of stress, due to the fact that it enables them to attach direction and meaning to their work. Organisational commitment can also provide people with stability and a feeling of belonging. However, the opposite can also be true.

Two approaches can be followed when defining organisational commitment (Blau & Boal, 1987). In the first approach, commitment is seen as a behaviour during which the individual is viewed as committed to an organisation because it is too costly for him or her to leave. In the second approach the individual is committed to the organisation because of shared goals and the wish to maintain membership (Blau & Boal, 1987). However, organisational commitment has recently been expanded to a more comprehensive view, consisting of three components, namely affective, continuance and normative commitment (Meyer, Stanley, Herscovitch & Topolnytsky, 2002; Siu, 2002). According to Meyer et al. (2002), affective commitment denotes an emotional attachment to, identification with and involvement in the organisation. Continuance commitment denotes the perceived cost associated with leaving the organisation, and normative commitment reflects a perceived obligation to remain in the organisation.

Research has demonstrated that work-related stressors can have a wide-ranging negative impact on the individual and the organisation. In terms of the current research, occupational stress of employees working in an insurance company in South Africa is studied. Not only is it important to establish reliable and valid methods of measurement of perceived stress, but based on the findings, the aim will be to understand stress as an organisational phenomenon so that it can be tackled at the organisation level.

Consequently, the following research hypotheses can be formulated:

H1: The ASSET is an internally consistent and valid measuring instrument of occupational stress of employees in an insurance company.

H2: High levels of perceived occupational stress will be negatively associated with employee wellness.

H3: Significant differences based on biographical characteristics exist regarding stress levels (as measured by the ASSET) of employees in an insurance company.

H4: Individual commitment to the organisation will moderate the effect of occupational stress on health.

METHOD

Research design

A cross-sectional survey design was used to achieve the objectives of this research. This design is suitable for the development and validation of questionnaires (Shaughnessy & Zechmeister, 1997). Cross-sectional designs are appropriate where groups of subjects at various stages of development are studied simultaneously, whereas the survey technique of data collection gathers information from the target population by means of questionnaires (Burns & Grove, 1993).

Study population

The study population could be defined as an availability sample of employees in an insurance company. The total population of 1 100 employees in an insurance company was targeted. A response rate of 56,5% was achieved, of which 613 responses (98,55%) could be utilised. Descriptive information of the sample is given in Table 1.

Table 1

Characteristics of the Participants

Item	Category	Frequency (Percentage)
Education	Grade 10 (Standard 8)	8,35
	Grade 12	52,70
	Grade 12 + Diploma	23,13
	Grade 12 + Higher Diploma or Degree	11,83
	Grade 12 + Higher Diploma or Degree (Honours)	2,78
	Grade 12 + Higher Diploma or Degree (Masters)	1,22
Role	Clerical	49,24
	Professional	6,79
	Management: Gr. 12-11	12,73
	Management: Gr.10-8	20,54
	Management: Gr. 7-5	10,02
	Management: Gr. 4-3	0,68
	Management: Gr. 2-1	0,00
Gender	Male	42,74
	Female	57,26
Race	Black	10,95
	White	45,92
	Coloured	38,56
	Asian	4,58
Marital Status	Single	125 (20,46)
	Engaged or in Close relationship	65 (10,64)
	Married	357 (58,43)
	Divorced	47 (7,69)
	Separated	5 (0,82)
	Remarried	12 (1,96)
Home Language	Afrikaans	34,04
	English	55,48
	Other	10,47

The sample consisted mainly of English-speaking, married females (57,26%) with a Grade 12 school qualification (52,7%). The mean age of the participants was 35,5 years while the average length of service was 7,55 years.

Measuring battery

A *biographical questionnaire* was developed to gather information about the demographic characteristics of the participants. Information gathered included position, area, education, gender, marital status and language.

The *ASSET* (which refers to An Organisational Stress Screening Tool) 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 of 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 is divided into four questionnaires. The first questionnaire (37 items) measures the individual's perception of his or her job. This subscale includes questions relating to eight potential sources of stress, namely: work relationship; work-life balance; overload; job security; control; resources and communication; job overall; and pay and benefits. The second questionnaire (9 items) measures the individual's attitude toward his or her organisation, and includes questions relating to perceived levels of commitment both from and to the organisation. The third questionnaire (19 items) focuses on the individual's health, aimed at specific outcomes of stress, and includes questions relating to both physical and psychological health. The fourth questionnaire (24 items) focuses on supplementary information, i.e. the background information, and includes questions relating to factors, which may affect stress. The first three questionnaires of the ASSET are scored on a six-point scale with 1 *(strongly disagree)* to 6 *(strongly agree)*. The fourth questionnaire is scored on a four-point scale with 1 *(never)* to 4 *(often)*.

The ASSET has an established set of norms from a database of responses from 9 188 workers in the public and private sector organisations (non-higher education institutions) in the UK. Validity verification 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. A series of Cronbach's alphas was carried out on each of the questions for the five ASSET subscales to identify the reliability of the ASSET questionnaire with these data. The results ranged from 0,64 to 0,94, showing good reliability.

Statistical analysis

Structural equation modelling (SEM) methods as implemented by AMOS (Arbuckle, 1997) were used. Data analysis was conducted in three stages. In the first stage the following goodness-of-fit indices were used to summarise the degree of correspondence between the implied and observed covariance matrices:

- The χ^2 goodness-of-fit statistic; a large χ^2 relative to the degrees of freedom indicates a need to modify the model to better fit the data;
- The χ^2/degrees of freedom ratio (CMIN/DF) (Wheaton, Muthén, Alwin & Summers, 1977);
- The Goodness of Fit Index (GFI) indicates the relative amount of the variances/co-variances in the sample predicted by the estimates of the population. It usually varies between 0 and 1, and a result of 0,90 or above indicates a good model fit;
- The Adjusted Goodness-of-Fit Index (AGFI) is a measure of the relative amount of variance accounted for by the model, corrected for the degrees of freedom in the model relative to the number of variables;
- The parsimony goodness-of-fit index (PGFI) takes into account the complexity of the hypothesised model in the assessment of overall model fit and provides a more realistic evaluation of the hypothesised model. Byrne (2001) suggested values > 0,80 are considered to be appropriate;

- The Normed Fit Index (NFI) represents the point at which the model being evaluated falls on a scale running from a null model to perfect fit. This index is normed to fall on a 0 to 1 continuum;
- The Comparative Fit Index (CFI) represents the class of incremental fit indices in that it is derived from the comparison of a restricted model with that of an independence (or null) model in the determination of goodness-of-fit;
- The Tucker-Lewis Index (TLI) (Tucker & Lewis, 1973), which is a relative measure of covariation explained by the model that is specifically developed to assess factor models. For NFI, CFI and TLI, it is more or less generally accepted that a value of less than 0,90 indicates that the fit of the model can be improved (Hoyle, 1995), although a revised cut-off value close to 0,95 has recently been advised (Hu & Bentler, 1999);
- The Root Mean Square Error of Approximation (RMSEA) estimates the overall amount of error; it is a function of the fitting function value relative to the degrees of freedom. Hu and Bentler (1999) suggested a value of 0,05 to be indicative of good fit between the hypothesised model and the observed data.

In the second stage of analysis, descriptive statistics (means, standard deviations, skewness and kurtosis) were computed to describe the data. Cronbach alpha coefficients and inter-item correlations were used to determine the internal consistency, homogeneity and unidimensionality of the measuring instruments (Clark & Watson, 1995). Coefficient alpha contains important information regarding the proportion of variance of the items of a scale in terms of the total variance explained by that particular scale. According to Clark and Watson (1995) the mean inter-item correlation (which is a straightforward measure of internal consistency) provides useful information in conjunction with the alpha coefficient of a scale (which is an indication of homogeneity of a scale), but as such cannot ensure unidimensionality of a scale.

In terms of statistical 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. Pearson product-moment correlation coefficients were used to specify the relationship between the variables. A cut-off point of 0,30 (medium effect, Cohen, 1988) was set for the practical significance of correlation coefficients.

One-way analysis of variance (ANOVA) was used to determine the differences between the subgroups of the sample. Tukey's Standardised Range t-tests were used to determine the statistical significance of differences obtained during ANOVAs. Practical significance of the differences in means between two groups was computed by means of the following formula (Cohen, 1988; Steyn, 1999):

$$d = \frac{Mean_A - Mean_B}{SD_{MAX}}$$

where

$Mean_A$ = Mean of the first group

$Mean_B$ = Mean of the second group

SD_{MAX} = Highest standard deviation of the two groups

The following formula was used to determine the practical significance of means of more than two groups (Steyn, 1999):

$$d = \frac{Mean_A - Mean_B}{Root \quad MSE}$$

where

$Mean_A$ = Mean of the first group

$Mean_B$ = Mean of the second group

$Root\ MSE$ = Root Mean Square Error

According to Cohen (1988), $0,10 \leq d \leq 0,50$ indicates a small effect; $0,50 \leq d \leq 0,80$ indicates a medium effect and $d \geq 0,80$ indicates a large effect. In terms of the current research, a cut-off point of 0,50 (medium effect) was set for the practical significance of the differences between group means.

Covariance analysis or structural equation modelling (SEM) methods, as implemented by AMOS (Arbuckle, 1997), were used to construct and test a model where individual commitment to the organisation moderates the effect of occupational stress on health. In terms of the degree of correspondence between the implied (hypothesised model) and the observed covariance matrices, the χ^2 statistic and several goodness-of-fit indices were utilised. However, the χ^2 statistic, if used in isolation, has certain limitations. The statistic can be equated to the $(N-1)F_{min}$ statistic, where N is the sample size and F_{min} the minimum fit function. This value tends to become substantial in the case where the model does not hold and the sample size is large, in which instance the likelihood of rejecting the null hypothesis is increased (Byrne, 2001). In addressing this problem, one of the first alternative statistics to be included in the model was the χ^2/degrees of freedom or *CMIN/DF* statistic, which is the minimum discrepancy per degrees of freedom (Wheaton et al., 1977). These criteria, often referred to as "subjective" or "practical" indices of fit, are typically used as adjuncts of the χ^2 statistic.

RESULTS

The obtained χ^2 goodness-of-fit statistic, degrees of freedom and probability or significant level are studied. Comparative fit indices, such as the Goodness-of-Fit Index (GFI), the Adjusted Goodness-of-Fit Index (AGFI), the Parsimony Goodness-of-Fit Index (PGFI), the Normed Fit Index (NFI), the Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI) and the Root Mean Square Error of Approximation (RMSEA) were also utilised.

Hypothesised model: ASSET

The full ASSET model consisting of nine dimensions was tested. Table 2 presents fit statistics for the hypothesised ASSET model.

Table 2

The Goodness-of-Fit Statistic for the Hypothesised ASSET Model

Variable	χ^2	χ^2/df	GFI	AGFI	PGFI	NFI	TLI	CFI	RMSEA
Work-Life Balance	6,49	3,24	1,00	0,97	0,20	0,98	0,97	0,99	0,06
Resources and Communication	6,92	6,92	0,99	0,94	0,10	0,99	0,92	0,99	0,10
Work Relationships	83,51	4,64	0,97	0,93	0,48	0,94	0,93	0,96	0,08
Overload	4,98	2,49	1,00	0,98	0,20	0,99	0,99	1,00	0,05
Job Security	3,10	1,55	1,00	0,99	0,20	0,99	0,99	1,00	0,03
Job Characteristics	65,69	5,47	0,97	0,93	0,42	0,90	0,85	0,92	0,09
Control	3,41	1,70	1,00	0,99	0,20	1,00	0,99	1,00	0,03
Commitment	60,87	2,44	0,98	0,96	0,54	0,98	0,98	0,99	0,05
Health	463,17	3,56	0,92	0,89	0,70	0,90	0,92	0,93	0,07

The statistically significant χ^2 value indicates an overall satisfactory fit with the original model, except for the dimension of Health, which was adjusted by correlating three pairs of errors on the Psychological Health Questionnaire (Item 10 and Item 12; Item 10 and Item 18; Item 12 and Item 16) and one pair of errors on the Physical Health Questionnaire (Item 4 and Item 6). The GFI and AGFI can be classified as absolute indices of fit because they basically compare the hypothesised model with no model at all (Hu & Bentler, 1995). In this case both indices range from zero to 1,00, with values close to 1,00 indicative of good fit (Jöreskog & Sörbom, 1993). Although the PGFI values are lower than 0,80, the other fit statistics indicate a satisfactory fit of the measurement model to the data. The AGFI value of the Health dimension is lower than the original cut-off value of > 0,90 (Bentler, 1992). Bentler (1990) suggested that the CFI should be the index of choice and most of the CFI values (except Job Characteristics and Health) are >0,95 as suggested by Hu and Bentler (1999). According to Hu and Bentler (1999), an RMSEA value of 0,05–0,06 is indicative of good fit between the hypothesised model and the observed data. This is valid for five dimensions: Work-Life Balance; Overload; Job Security; Control; Commitment (after errors on Item 2 and Item 3 on the Commitment from Individual Questionnaire had been allowed to correlate). An RMSEA of 0,80–0,10 indicates average fit. This is valid for four dimensions, namely Resources and

Communication (after errors on Item 27 and Item 28 had been allowed to correlate); Work Relationships (after errors on Item 9 and Item 11 and on Item 9 and Item 23 had been allowed to correlate); Job Characteristics (after errors on Item 7 and Item 8 and an Item 10 and Item 25 had been allowed to correlate); Health (after four pairs of errors as indicated above had been allowed to correlate).

Subsequently the descriptive statistics of the ASSET items are given. Based on the assertion of West, Finch and Curran (1995) of possible inflation of the χ^2 goodness-of-fit statistic, the frequency distribution of the items was inspected to identify deviations of skewness and kurtosis.

Table 3

Descriptive Statistics, Alpha Coefficients and Inter-Item Correlations of the ASSET

Dimension/Item	Sten	*Mean*	*SD*	Skewness	Kurtosis	*r* (mean)	α
Work-Life Balance	1	9,76	4,10	0,69	-0,01	0,34	0,68
Work longer hours than choose/want to	4	3,10	1,54	0,35	-1,04	-	-
Work unsocial hours	3	2,17	1,45	1,25	0,55	-	-
Too much time travelling	2	1,82	1,25	1,81*	2,60*	-	-
Work interferes with my home/personal life	1	2,67	1,48	0,59	-0,74	-	-
Resources and Communication	1	10,52	3,78	0,49	0,16	0,37	0,70
Not informed about what goes on in organisation	1	2,65	1,33	0,74	-0,25	-	-
Never told I am doing a good job	4	2,98	1,42	0,48	-0,69	-	-
Not adequately trained for job	3	2,48	1,22	0,88	0,13	-	-
Do not have proper equipment/resources	3	2,42	1,24	1,06	0,69	-	-
Work Relationships	4	19,93	7,00	0,65	0,44	0,37	0,82
Boss intimidating/bullying	5	2,25	1,53	1,15	0,18	-	-
Lack of support from boss/colleagues	6	2,89	1,46	0,47	-0,79	-	-
Feel isolated at work	3	2,28	1,16	0,99	0,53	-	-
Not sure of expectations from boss	1	2,33	1,23	1,01	0,40	-	-
Colleagues are not pulling their weight	7	3,56	1,51	-0,07	-1,08	-	-
Boss is forever finding fault	4	2,10	1,15	1,37*	1,80*	-	-
Others take credit for what I have achieved	7	2,65	1,37	0,76	-0,24	-	-
Relationships with colleagues are poor	4	1,87	0,94	1,61*	3,53*	-	-
Overload	4	10,67	3,96	0,52	0,17	0,44	0,76
Technology in job is overloading	4	2,37	1,20	0,95	0,50	-	-
Unrealistic deadlines	6	2,70	1,25	0,70	-0,23	-	-
Unmanageable workloads	6	2,65	1,27	0,75	-0,07	-	-
Not enough time to do job properly	7	2,95	1,45	0,51	-0,78	-	-
Job Security	9	12,97	4,29	0,18	-0,43	0,33	0,67
Job is insecure	7	3,43	1,54	0,14	-1,11	-	-
Job is not permanent	6	2,54	1,56	0,86	-0,40	-	-
My job is likely to change in the future	6	3,71	1,45	-0,30	-0,95	-	-
My skills may become redundant	9	3,28	1,50	0,25	-1,08	-	-

Table 3 (continue)

Descriptive Statistics, Alpha Coefficients and Inter-Item Correlations of the ASSET

Dimension/Item	Sten	*Mean*	*SD*	Skewness	Kurtosis	*r* (mean)	α
Job Characteristics	2	20,00	5,72	0,18	-0,16	0,22	0,66
Physical working conditions are unpleasant	4	2,56	1,54	0,89	-0,32	-	-
Job involves risk of physical violence	2	1,42	0,80	2,68*	9,11*	-	-
Work performance closely monitored	8	3,92	1,51	-0,52	-0,93	-	-
Organisation is constantly changing for change's sake	6	3,27	1,44	0,15	-1,01	-	-
Work is dull and repetitive	7	3,03	1,57	0,43	-0,95	-	-
Deal with difficult customers/clients	3	3,15	1,55	0,26	-1,15	-	-
Do not enjoy job	4	2,65	1,41	0,79	-0,23	-	-
Same job for next 5--10 years	5	3,62	1,72	-0,12	-1,34	-	-
Control	4	12,12	4,37	0,31	-0,42	0,51	0,80
Little control over many aspects of job	4	3,38	1,46	0,03	-0,97	-	-
Not involved in decisions affecting my job	5	3,04	1,36	0,38	-0,69	-	-
My ideas/suggestions are not taken into account	5	2,83	1,27	0,63	-0,34	-	-
Little/no influence over performance targets	4	2,86	1,42	0,63	-0,53	-	-
Pay and Benefits	-	-	-	-	-	-	-
Pay and benefits not as good as those of others in similar jobs	9	4,10	1,64	-0,42	-1,05	-	-
Commitment from Organisation	7	21,12	4,52	-0,61	0,50	0,48	0,81
Valued and trusted by organisation	5	3,88	1,19	-0,49	-0,33	-	-
Not seeking work elsewhere	7	4,19	1,42	-0,68	-0,43	-	-
Proud of organisation	10	4,68	1,04	-1,04*	1,65*	-	-
Interested in aspect of organisation outside my job	7	3,91	1,24	-0,48	-0,45	-	-
Overall happy with organisation	8	4,46	1,03	-0,85	0,97	-	-
Commitment from Individual	8	18,15	3,50	-0,88	1,46*	0,47	0,77
Willing to put myself out for organisation	5	4,35	1,27	-0,80	-0,01	-	-
Prepared to take more responsibility	5	4,71	1,07	-1,20*	1,63*	-	-
Worthwhile to work hard for organisation	8	4,40	1,17	-0,80	0,41	-	-
Committed to organisation	8	4,69	1,01	-1,02*	1,38*	-	-
Physical Health	8	14,79	4,21	0,01	-0,67	0,38	0,79
Lack of appetite/over-eating	6	2,50	1,01	-0,16	-1,10	-	-
Indigestion/heartburn	5	2,26	1,05	0,21	-1,19	-	-
Insomnia/sleep loss	7	2,48	1,06	-0,03	-1,23	-	-

Table 3 (continue)

Descriptive Statistics, Alpha Coefficients and Inter-Item Correlations of the ASSET

Dimension/Item	Sten	*Mean*	*SD*	Skewness	Kurtosis	*r* (mean)	α
Headaches	7	2,79	0,96	-0,38	-0,80	-	-
Muscular tension/aches/pains	8	2,71	1,02	-0,33	-1,01	-	-
Feeling nauseous/sick	7	2,04	0,95	0,45	-0,86	-	-
Psychological Health	10	24,62	7,22	0,30	-0,44	0,40	0,89
Panic/anxiety attacks	6	1,74	0,93	0,97	-0,22	-	-
Drink more alcohol than usual	1	1,47	0,81	1,63*	1,64*	-	-
Smoke more than usual	1	1,57	0,99	1,44	0,58	-	-
Constant irritability	5	2,21	0,93	0,19	-0,92	-	-
Difficulty in making decisions	5	2,18	0,85	0,07	-0,89	-	-
Feeling/becoming angry easily	5	2,31	0,89	0,16	-0,74	-	-
Constant tiredness	3	2,80	0,98	-0,38	-0,85	-	-
Feeling unable to cope	10	2,20	0,91	0,32	-0,71	-	-
Avoiding contact with other people	3	1,93	0,89	0,59	-0,57	-	-
Mood swings	10	2,15	0,93	0,40	-0,72	-	-
Unable to listen to other people	4	1,81	0,81	0,67	-0,33	-	-

* High skewness and kurtosis

Table 3 shows that acceptable Cronbach alpha coefficients varying from 0,66 to 0,89 were obtained, which compare reasonably well with the guideline of 0,70 (0,55 in basic research), demonstrating that a large portion of the variance is explained by the dimensions (internal consistency of the dimensions) (Nunnally & Bernstein, 1994). The mean inter-item correlations of the dimensions, with the exception of one ASSET dimension (Control), are within the guideline of $0,15 < r < 0,50$ (Clark & Watson, 1995). It is evident from Table 6 that most of the scales of the measuring instruments have relatively normal distributions, with low skewness and kurtosis. The exceptions are the following items: Work-Life Balance (Too much time travelling), Work Relationships (Boss is forever finding fault and Relationships with colleagues are poor), Job Characteristics (Job involves risk of physical violence), Commitment from organisation (Proud of organisation), Commitment from individual (Prepared to take more responsibility and Committed to organisation) and Psychological Health (Drink more alcohol than usual), which show relatively high skewness and kurtosis.

Physical Health and Psychological Health (as measured by the ASSET) prove to be major outcomes of stress, as is reflected by the sten scores equal to and higher than 8 for these dimensions. On the physical level it seems as though one item is perceived as high levels of concern among the population, namely "Muscular tension/aches/pains". On the psychological level the following items were identified as major sources of concern: "Feeling unable to cope", and "Mood swings". Reassuring is the fact that the population indicates that it does not revert to smoking and drinking in order to alleviate their stress.

The sten of 7 scored on the dimension Commitment from Organisation indicates that the population experiences feelings of trust and respect from the organisation resulting in their feeling that it is worth "going the extra mile" for the organisation. On this dimension the outstanding item "Proud of organisation" (sten of 10) indicates that individuals feel that their organisation is committed to them. The sten of 8 on the dimension of Commitment from the Individual indicates that the employees perceived their own levels of commitment towards the organisation as high. On this dimension the outstanding items "Worthwhile to work hard for organisation" (sten of 8) and "Committed to organisation" (sten of 8) indicate that the people forming the population are loyal and dedicated to the organisation and that they do their jobs to the best of their ability.

Observing the sten scores of lower than 3 in the case of Work-Life Balance, Resources and Communication and Job Characteristics of the ASSET, indications are that these three dimensions are perceived as sources of low amounts of stress among the population. In spite of the low score of the Job Characteristics dimension, two items of the Job Characteristics Scale (as measured by the ASSET) give indications of high levels of stress perceived in these areas, namely "Work performance is closely monitored", and "Work is dull and repetitive". Under the Job Security dimension, one stress-provoking area is reflected by the item "My skills may become redundant". This indicates that members of the population may experience feelings that the niche they provide via their unique skills may become obsolete in the organisation. The high sten on "Pay and benefits not as good as those of others in similar jobs" under the Pay and Benefits dimension is perceived by the population as a high stress-provoking area. The low sten on "Not sure of expectations from boss" under the dimension of Work Relationships reflects that members of the population know what is

expected from them from their supervisors or managers. The other dimensions and items with sten scores of 4–6 indicate average sources of stress.

In spite of the fact that four of the ASSET dimensions had been re-specified by correlating errors in the quest for a better fit, these results provide support for hypothesis 1 in terms of internal consistency and validity of the ASSET for employees in an insurance company.

The product moment correlation coefficients between the ASSET dimensions are given in Table 4.

Table 4

Product-Moment Correlation Coefficients of the ASSET dimensions

Dimensions	1	2	3	4	5	6	7	8	9	10	11
1. Work-Life Balance	-	-	-	-	-	-	-	-	-	-	-
2. Resources and Communication	0,27*	-	-	-	-	-	-	-	-	-	-
3. Work Relationships	0,33*+	0,69*++	-	-	-	-	-	-	-	-	-
4. Overload	0,50*++	0,48*+	0,55*++	-	-	-	-	-	-	-	-
5. Job Security	0,23*	0,38*+	0,43*+	0,35*+	-	-	-	-	-	-	-
6. Job Characteristics	0,37*+	0,56*++	0,62*++	0,54*++	0,43*+	-	-	-	-	-	-
7. Control	0,37*+	0,66*++	0,67*++	0,53*++	0,45*+	0,63*++	-	-	-	-	-
8. Commitment from Individual	-0,24*	-0,37*+	-0,39*+	-0,31*+	-0,22*	-0,50*+	-0,46*+	-	-	-	-
9. Commitment from Organisation	-0,20*	-0,22*	-0,28*	-0,23*	-0,15*	-0,39*+	-0,30*	0,72*++	-	-	-
10. Physical Health	0,22*	0,28*	0,28*	0,31*+	0,17*	0,34*+	0,30*	-0,25*	-0,21*	-	-
11. Psychological Health	0,33*+	0,34*+	0,35*+	0,41*+	0,23*	0,40*+	0,38*+	-0,34*	-0,27*	0,72*++	-

* $p \leq 0,05$ – statistically significant

\+ $r > 0,30$ – practically significant (medium effect)

++ $r > 0,50$ – practically significant (large effect)

Table 4 shows a statistically significant correlation (practically significant, large effect) between Work-Life Balance and Overload. Work-Life Balance shows statistically significant positive correlations (practically significant, medium effect) with Work Relationships, Job Characteristics, Control and Psychological Health. Resources and Communication show

statistically significant positive correlations (practically significant, large effect) with Work Relationships, Job Characteristics and Control, statistically significant positive correlations (practically significant, medium effect) with Overload, Job Security and Psychological Health, and a statistically negative correlation (practically significant, medium effect) with Commitment from Individual. Work Relationships shows statistically significant positive correlations (practically significant, large effect) with Overload, Job Characteristics and Control, statistically significant positive correlations (practically significant, medium effect) to Job Security and Psychological Health and a statistically significant negative correlation (practically significant, medium effect) to Commitment from Individual.

Overload shows statistically significant positive correlations (practically significant, large effect) with Job Characteristics and Control, statistically significant positive correlations (practically significant, medium effect) with Job Security, Physical and Psychological Health and statistically significant negative correlations (practically significant, medium effect) with Commitment from Individual. Job Security shows statistically significant positive correlations (practically significant, medium effect) with Job Characteristics and Control. Job Characteristics show a statistically significant positive correlation (practically significant, large effect) to Control, statistically significant positive correlations (practically significant, medium effect) with Physical and Psychological Health and statistically significant negative correlations (practically significant, medium effect) with Commitment from Individual and Commitment from Organisation. Control shows a statistically significant positive correlation (practically significant, medium effect) with Psychological Health and a statistically significant negative correlation (practically significant, medium effect) with Commitment from Individual. Commitment from Individual shows a statistically significant positive correlation (practically significant, large effect) with Commitment from Organisation and a statistically significant negative correlation (practically significant, medium effect) with Psychological Health. Physical Health shows a statistically significant positive correlation (practically significant, large effect) with Psychological Health.

The differences for various biographical groups of employees in an insurance company were analysed in terms of perceived stress as reflected by the results of the ASSET. The difference in stress levels of the different job categories are given in Table 5.

Table 5

ANOVAs – Differences in Stress Levels (as measured by the ASSET) of Different Job Categories

Item	Clerical	Professional	Management: Gr. 12-11	Management: Gr. 10-8	Management: Gr. 7-5	Management: Gr. 2-4	Root MSE	*p*
Work-Life Balance	10,10	9,30	9,43	9,50	9,71	12,00	4,06	0,46
Resources and Communication	11,45[a]	8,85[b]	10,96	10,01	8,34[c]	5,25[c]	3,62	0,01*
Work Relationships	22,14[a]	16,08[c]	20,48	18,19[b]	15,95[c]	9,25[c]	6,58	0,01*
Overload	11,50[a]	9,38[b]	10,51	9,79	10,44	6,75[c]	3,91	0,01*
Job Security	14,06[a]	12,00	12,79	11,69[b]	11,22[b]	12,50	4,17	0,01*
Job Characteristics	22,42[a]	16,48[c]	19,67[b]	18,15[c]	15,88[c]	10,75[c]	5,11	0,01*
Control	13,40[a]	10,43[b]	11,99	11,00[b]	9,83[c]	5,75[c]	4,13	0,01*
Commitment from Individual	20,17[c]	21,90[b]	21,53[b]	21,31[b]	24,22	24,75[a]	4,34	0,01*
Commitment from Organisation	17,45[c]	18,68[b]	18,51[b]	18,41[b]	20,20	21,00[a]	3,36	0,01*
Physical Health	15,60[a]	13,33[b]	15,16	14,06	12,85[b]	9,50[c]	4,10	0,01*
Psychological Health	26,08[a]	22,50[b]	24,85	22,98	21,76[b]	14,25[c]	7,02	0,01*

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

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

Table 5 shows a statistically and practically significant difference in the experience of Resources and Communication between Clerical and Management (Gr. 2-4 and Gr. 7-5) employees (large effect) and between Clerical and Professional employees (medium effect). Regarding the experience of Work Relationships, there is a statistically and practically significant difference between Clerical and Management: Gr. 10-8 employees (medium effect) and Clerical, Professional and Management (Gr.2-4 and Gr. 7-5) employees (large effect). There is a statistically and practically significant difference in the experience of Overload between Clerical and Professional employees (medium effect) and between Clerical and Management: Gr. 2-4 employees (large effect).

In the experience of Job Security, there is a statistically and practically significant difference (medium effect) between Job Security as experienced between Clerical and Management (Gr. 7-5 and Gr. 10-8) employees. There is a statistically and practically significant difference in the experience of Job Characteristics between Clerical and Management: Gr. 12-11

employees (medium effect) and between Clerical, Professional and Management (Gr. 2-4, Gr. 7-5 and Gr. 10-8) employees (large effect). Regarding the experience of Control, there is a statistically and practically significant difference between Clerical, Professional and Management: Gr. 10-8 employees (medium effect) and between Clerical and Management (Gr. 2-4 and Gr. 7-5) employees (large effect). There are statistically and practically significant differences in the experience of Commitment from Individual and Commitment from Organisation between Management: Gr. 2-4 and Professional and Management (Gr. 10-8 and Gr. 12-11) employees (medium effect) and between Management: Gr. 2-4 and Clerical employees (large effect). Regarding the experience of Physical and Psychological Health, there are statistically and practically significant differences between Clerical, Professional and Management: Gr. 7-5 employees (medium effect) and between Clerical and Management: Gr. 2-4 employees (large effect).

The difference in stress levels of employees in an insurance company in terms of their length of service in the company are given in Table 6.

Table 6

ANOVAs – Differences in Stress Levels (as measured by the ASSET) in terms of Length of Service

Item	0 – 1 year	1,1 – 5 years	5,1 – 10 years	10,1 – 15 years	15 plus years	Root MSE	*p*
Work-Life Balance	7,27[b]	9,15	10,10	10,15[a]	9,78	4,08	0,03
Resources and Communication	11,18	11,03	10,69	10,34	9,63	3,76	0,04
Work Relationships	22,73[a]	19,67	20,77	19,96	18,60[b]	6,98	0,08
Overload	9,18	10,55	10,94	10,95	10,14	3,95	0,27
Job Security	12,73	12,36	12,87	13,68	13,02	4,28	0,10
Job Characteristics	22,09	19,68	20,72	19,85	19,35	5,71	0,19
Control	12,18	12,26	12,62	12,11	11,05	4,35	0,07
Commitment from Individual	22,73[a]	20,92	20,39[b]	21,19	22,39	4,48	0,01*
Commitment from Organisation	17,91	18,28	17,87	18,00	18,66	3,50	0,42
Physical Health	12,91[b]	14,75	14,58	14,85	15,32[a]	4,21	0,37
Psychological Health	21,36[b]	23,83	25,02[a]	25,02[a]	24,89	7,21	0,25

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

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

Table 6 indicates that there is a practically significant difference (of medium effect) between Work-life Balance as experienced by employees with 10,1 to 15 years working experience in the company and employees with less than one year experience. There is a practically significant difference (medium effect) between Work Relationships as experienced by employees with experience of one year or less and employees with more than 15 years experience. Regarding Commitment from Individual, there is a statistically and practically significant difference (medium effect) between employees with experience of one year or less and employees with five to ten years experience. There is a practically significant difference (medium effect) between Physical Health as experienced by employees with more than fifteen years experience and employees with less than one year experience. There is a practically significant difference (medium effect) between Psychological Health as experienced by employees with 5,1 to 15 years experience and employees with experience of less than one year.

Structural equation modelling was used to test whether occupational stress leads to ill health and to determine whether organisational commitment moderates the effects of occupational stress on health. The final model is given in Figure 1.

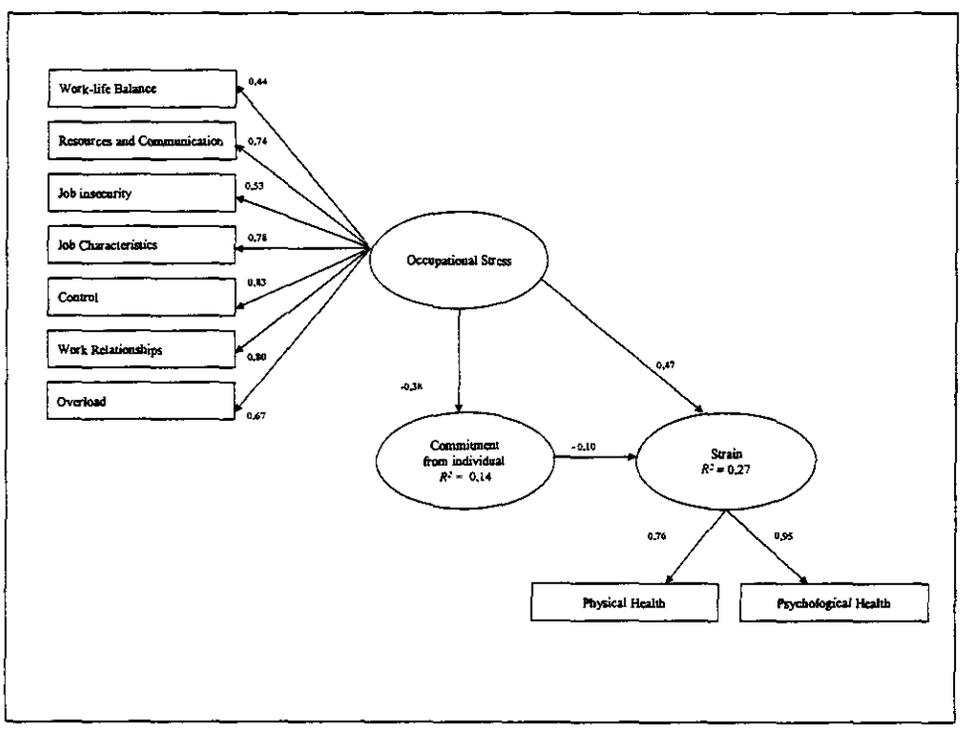

Figure 1. Commitment from the individual as a moderator of the effect of occupational stress on (ill) health

The proposed model, including the hypothesised relationships, was tested with SEM analysis. Results indicated that the model did fit the data adequately but upon inspection of the modification indices (MI), they revealed that the fit between the model and the data could be further improved if correlation was allowed between the measurement errors of occupational stress dimensions. It is important to note that items with identical rating scales often have correlating measurement errors (Byrne, 1989). This means that the fit of the proposed model can be improved if the measurement errors between Work-Life Balance and Overload (MI=57,95) and between Resources and Communication and Work Relationships (MI=23,43) are allowed to correlate. The revised model – including covariation – shows a good fit (χ^2 = 79,51, GFI = 0,97, AGFI = 0,96, PGFI = 0,55, NFI = 0,97, IFI = 0,98, TLI = 0,97, CFI = 0,98 and RMSEA = 0,05).

As can be seen in Figure 1, the path from Occupational Stress to Strain (ill health) is significant. This means that high levels of occupational stress as experienced by employees in an insurance company may result in ill health with either physical or psychological health problems, or both. According to the model, it seems that Commitment from Individual has a moderating effect on the experience of both occupational stress and ill health. It means that when the commitment of the individual towards the organisation is high, it will moderate the effect of occupational stress on physical and psychological ill health. When an individual experiences high levels of occupational stress without coping with or handling the stress, his or her level of commitment towards the organisation may as a result become lower. It is indicated in Figure 1 that 14% of the variance of occupational stress is explained by Commitment from Individual and 27% is explained by strain (ill health).

DISCUSSION

The results of this study confirm the importance of occupational stress as a factor affecting employees in an insurance company. The aim of this study was to investigate the construct validity and internal consistency of the ASSET for employees in an insurance company. The results obtained using the structural equation modelling approach indicated a satisfactory fit with the original model after five of the ASSET dimensions (Resources and Communication, Work Relationships, Job Characteristics, Commitment, and Health) were re-specified by correlating errors. Reliability analysis revealed that all the dimensions were sufficiently internally consistent.

The analysis of the sten scores of the ASSET dimensions indicates that Physical Health and Psychological Health prove to be major outcomes of stress for employees and the sten scores on the items of these dimensions indicate that several physical (e.g. muscular tension/pains) and psychological symptoms (inability to cope and mood swings) are perceived to such an extent that they may have a detrimental effect on work performance, as is predicted by the study of Winefield et al. (2002).

Employees in an insurance company displayed feelings of trust, respect and pride towards the organisation, indicating an understanding that the organisation is committed to the employees. The employees perceive their own levels of commitment towards the organisation as high, indicating that they are loyal and dedicated to the organisation and that they do their work to the best of their ability.

It is interesting to note that in this study the employees did not perceive Work-Life Balance, Resources and Communication and Job Characteristics (as measured by the ASSET) as stress provoking. Some of the aspects that the population does indicate as stressors in these dimensions are work performance management and the characteristics of the actual job (i.e. Work is dull and repetitive). Under the Job Security dimension, one stress-provoking area is reflected by feelings that their skills may become redundant in the near future. Another stress-provoking area for the population is the perception of their pay and benefits not to be compatible with similar positions. These indicators, if not attended to, may result in corrosion of organisational commitment in the longer run.

Evaluation of the Pearson correlations of the ASSET dimensions showed that Physical and Psychological Health are positively related to Overload and Job Characteristics. Psychological Health is positively related to Work-Life Balance, Resources and Communication, Work Relationships, Control and Physical Health. Psychological Health is negatively related to Commitment from Individual. Commitment from Organisation and Commitment from Individual (as measured by the ASSET) are positively related to each other. These findings are supported by the literature (Schaufeli & Bakker, 2002), which suggests that work demands (in this instance reflected by the Overload dimension of the ASSET) require sustained effort and are therefore associated with certain physical and/or psychological costs. It also linked with the findings of Siu (2002), who suggested that

organisational commitment was not only related to most of the physical and psychological outcomes among workers, but also to the moderating effects on the stressor-health relationship.

Regarding the differences in stress levels (as measured by the ASSET) based on biographical characteristics of the population, clerical employees scored significantly higher (practically significant difference) on Resources and Communication, Work Relationships, Overload, Job Characteristics, Control, Physical and Psychological Health than Professional and some Managerial employees. Clerical employees scored significantly higher (practically significant differences) on Job Security than Management (Gr. 7-10) employees. Management (Gr. 2-4) employees scored significantly higher (practically significant difference) on Commitment from Individual and Commitment from Organisation than Clerical, Professional and other Management employees.

In terms of length of service, employees with 10,1 to 15 years working experience scored significantly higher (practically significant differences) on Work-Life Balance than employees with less than one year experience. Employees with less than one year experience scored significantly higher (practically significant difference) than employees with more than 15 years experience. Of interest was the higher score (practical significant difference) of employees with less than one year experience on Commitment from Individual against the score of employees with 5-10 years experience. Organisational commitment may provide people with stability and a feeling of belonging (Siu, 2002). According to Blau and Boal (1987), one form of commitment is seen as behaviour where the individual is viewed as committed to an organisation because it is too costly for him or her to leave, which may be the case with employees with 5-10 years experience. However, the individual may also be committed to the organisation because of shared goals and the wish to maintain membership, which may be the case of employees with less than one year experience.

Significantly higher scores (practically significant differences) were obtained from employees with more than 15 years experience on Physical Health than employees with less than one year experience. Employees with 5,1–15 years experience scored higher (practically significant difference) on Psychological Health than employees with less than one year experience. Lai et al. (2000) indicate that work experience in the organisation (i.e. length of

service) tends to enhance job satisfaction, ultimately reducing the experience of stress. However, Preuss and Schaeke (1998) found no relationship between age, experience and level of perceived strain. In this study it seems that the longer an individual stays in the company, the more his or her perceived stress starts to manifest in either physical or psychological health problems.

Structural equation modelling confirmed the hypothesised relationships between occupational stress and (ill) health. Furthermore, individual commitment from the individual to the organisation moderated the effects of occupational stress on health. The analysis showed that 27% of the variance in health was predicted by occupational stress and 14% by a lack of individual commitment to the organisation.

Limitations of the present study include the sampling procedure, as this may impact on the possibility of generalisation of the findings to the total study population. Future studies could benefit hugely in terms of a stratified random-sample design, which would ensure sufficient representation of the different groups in the total population. Future studies should also focus on longitudinal designs where inferences in terms of cause and effect could be drawn. A further limitation of this study is its reliance solely on self-report measures. According to Schaufeli, Enzmann and Girault (1993) the exclusive use of self-report measures in validation studies increases the likelihood that at least part of the shared variances between measures can be attributed to method variance. Future studies should also consider extending the sample to include employees of other insurance companies in South Africa in order to standardise the ASSET for employees in insurance companies in South Africa, as well as to do comparative studies.

RECOMMENDATIONS

Given the pervasive nature of occupational stress, this study is a first step toward the validation of the ASSET as an organisational stress screening tool that can be used in the insurance industry in South Africa. As such, the current study only considered employees working in the head office of an insurance company and it is recommended that the study be expanded to all the other divisions of the organisation throughout South Africa as well as to include similar samples in other insurance companies and financial institutions within the

insurance industry in South Africa. Further refining and testing of the ASSET are needed. In stress research in general it is important to take a holistic approach in terms of stress and (ill) health of the employee (Cooper et al., 2001) in order to minimise the negative effects of occupational stress.

According to Kompier and Kristensen (2001), primary interventions may, in the first place, be directed at either the work situation or the coping capacity of the employee. Work-oriented interventions aim to improve the fit between an individual and the workplace. Worker-oriented interventions aim at teaching 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. If especially the physical and psychological stressors are allowed to continue unattended, the organisation can expect to encounter negative costs associated with continued, elevated levels of stress, such as burnout, absenteeism, employee turnover and lowered levels of service. Within the present study, physical and psychological health were found to be the major outcomes of perceived stressors. The organisation is therefore advised to take note of the impact of stressors such as the characteristics of the job in the working environment in order to protect both the employee and the organisation, especially as it seems that the longer an individual stays in the company, the more his or her perceived stress starts to manifest in either physical or psychological health problems.

Secondary-level interventions can be implemented to prevent employees who are already showing signs of stress from getting sick and to increase their optimism levels and coping capacity. Typical examples would include cognitive structuring, time management, conflict resolution techniques and coping strategies. Tertiary-level interventions are concerned with the rehabilitation of individuals who have suffered ill health or reduced well-being as a result of (ill) health in the workplace.

Finally, it is recommended with regard to the perceived occupational stress of employees within an insurance company that the current findings based on the results of the ASSET be validated with regard to the equal comparison of the perceived strain construct across cultural groups within the insurance industry in order to be able to generalise findings in the multi-cultural South African context.

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CHAPTER 4

RESEARCH ARTICLE 3

A MODEL OF WORK WELLNESS OF EMPLOYEES IN AN INSURANCE COMPANY*

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ABSTRACT

The objective of this study was to develop and test a causal model of work wellness of employees in an insurance company in South Africa. A cross-sectional survey design was used. An availability sample (N = 613) was taken from employees in an insurance company. The MBI-GS, UWES, Life Orientation Test – Revised, Health subscale of the ASSET and Job Characteristics Scale were administered. The results showed that lack of resources increases the levels of burnout, while availability of resources increases the levels of work engagement. Job demands increase the levels of burnout experienced. Dispositional optimism moderated the effects of a lack of job resources on burnout and mediated the effects thereof on ill health.

OPSOMMING

Die doelstelling van hierdie studie was om 'n oorsaaklike model van werkswelstand vir werknemers in 'n versekeringsmaatskappy in Suid-Afrika te ontwikkel en te toets. 'n Dwarssneeopname-ontwerp is gebruik. 'n Beskikbaarheidsteekproef (N = 613) is geneem van werknemers in 'n versekeringsmaatskappy. Die MBI-GS, UWES, Lewensoriëntasie-toets – Hersiene Weergawe, Gesondheidsubskale van die ASSET en Werkskenmerke-vraelys is afgeneem. Die resultate het getoon dat 'n gebrek aan hulpbronne bydra tot psigiese uitbranding, terwyl die beskikbaarheid van hulpbronne die vlakke van werksbegeestering verhoog het. Werkseise het die vlakke van uitbranding vermeerder. Disposisionele optimisme het die effek van 'n gebrek aan hulpbronne op uitbranding gematig en die effek daarvan op swak gesondheid gemedieer.

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The workplace of today is a demanding environment, both economically and psychologically. Employees are often emotionally, physically and spiritually exhausted (Maslach & Leiter, 1997). Not only are they faced with increased workloads and pressures but also with decreased job control and increased role conflict and role ambiguity (Low, Cravens, Grant & Moncrief, 2001; Whitaker, 1996), all ultimately relating to employee strain (Lindström, Leino, Seitsamo & Tordtila, 1997).

The constant pressure of elimination of one's job as a result of restructuring, downsizing and mergers (Schaufeli & Greenglass, 2001) increases the tension in employees to survive in the work environment. Besides coping with the impact of recessions and layoffs, employees also have to cope with increased workloads and the pressures of modern life (Anon, 2002). Since employment is not only the means of financial viability, but also defines individuals' identities, job loss or even the threat of it can be psychologically devastating (Dekker & Schaufeli, 1995). When demands are made over time in a way that taxes individuals without proper awards or resources for addressing demands, they start experiencing burnout (Hobfoll & Freedy, 1993). The prospect of possible demotion, or even actual job loss, can be associated with decreased psychological well-being (Roskies & Louise-Guerin, 1990).

Within the insurance industry, employees are often faced with continuous stressful working conditions. They have to cope with pressures to perform, work-family conflicts and dealing with demanding and difficult clients. The overall perception of the insurance industry has to do with work demands, lack of job security and the need to maintain a professional self (Chan, 2002). Feelings of being overwhelmed by perceived time pressures and deadlines, exorbitant work demands and informational overload are just some aspects of excessive quantitative job demands employees may suffer from (Montgomery, Peeters, Schaufeli & Den Ouden, 2003).

A result of this constant pressure and decreased psychological well-being can be burnout. Burnout is associated with the unsuccessful progression of continued attempts to buffer the impact of environmental stressors, resulting in a general breakdown of resources, and ultimately in the beginning of burnout (Schaufeli & Enzmann, 1998). It is concerned with the depletion of emotional resources, loss of motivation, belief in efficacy (Schaufeli & Enzmann, 1998), absenteeism or lateness, reduced productivity, problems in work-related relationships and a poor attitude towards work (Anon, 2002). Burnout could be described as a

particular and unique variety of strain which is a product of the interaction between environmental factors, such as job demands, and individual perceptions, characteristics and behaviours.

Despite the stress associated with their work and arising from work pressures and relationships with clients, Chan (2002) found that some employees in the insurance industry, and specifically some life assurance agents, still experience job satisfaction and a lack of mental ill health. Research on burnout showed that some employees, regardless of high job demands and long working hours, were not burned out (Schaufeli & Bakker, 2001). Instead, it seems that they found pleasure in working hard and dealing with job demands. It appears that exposure of certain employees to unfavourable working conditions may not necessarily result in negative psychological consequences, such as burnout or ill health problems. The question arises whether it is not possible that there are engaged employees who show energy, dedication and absorption in their work, i.e. employees who show behaviour that is the opposite of burnout (Rothmann, 2003).

Burnout and work engagement are indicators of the wellness of employees within organisations. Therefore, they could be combined in a model of well-being at work (Schaufeli, 2003; Schaufeli & Bakker, 2004) that distinguishes between two dimensions, namely identification with work (varying from cynicism to dedication) and mobilisation of energy (varying from exhaustion to vigour). This model 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). Work engagement is defined as an energetic state in which the employee is dedicated to excellent performance at work and is confident in his or her effectiveness (Schutte, Toppinen, Kalimo & Schaufeli, 2000). It is necessary that this holistic and integrated model of work wellness be tested within the insurance industry in South Africa.

From a theoretical point of view one could argue that burnout comprises two key aspects, namely exhaustion and cynicism (mental distancing). Exhaustion refers to the fact that the employee is *incapable* of performing because all energy has been drained, whereas cynicism reflects indifference or a distant attitude towards one's work in general. Mental distancing – or psychological withdrawal from the task – can be seen as an adaptive mechanism to cope with excessive job demands and resulting feelings of exhaustion. However, when this coping

strategy becomes an habitual pattern – as in cynicism – it becomes dysfunctional because it disrupts adequate task performance. In its turn, job demands and exhaustion are further increased so that the vicious circle is closed. This view on burnout agrees with the way (occupational) fatigue is conceptualised, namely as the incapacity and unwillingness to maintain a particular performance level (Meijman & Schaufeli, 1996). Essentially, incapacity and unwillingness to perform are considered as two sides of the same coin. Indeed, some empirical findings point to the pivotal role of exhaustion and cynicism as opposed to the third component, lack of professional efficacy (Schaufeli, 2003).

Work engagement was introduced as the hypothesised opposite of burnout (Leiter & Maslach, 1998; Maslach, Schaufeli & Leiter, 2001) and is characterised by vigour (high energy) and dedication (strong identification). In addition, a third element is distinguished – absorption – which most likely plays a less central role in the work engagement concept (Schaufeli, 2003). According to Schaufeli, Salanova, González-Romá and Bakker (2002), vigour is characterised by high levels of energy and mental resilience while working, the willingness to invest effort in one's work, not being easily fatigued, and persistence even in the face of difficulties. Dedication is characterised by a sense of significance from one's work, by feeling enthusiastic and proud about one's work, and by feeling inspired and challenged by it. Absorption is characterised by being fully concentrated and deeply engrossed in one's work, whereby the time passes quickly and one has difficulties with detaching oneself from work.

Exhaustion (low energy) and cynicism (poor identification) are the hallmarks of burnout that are assessed by the Maslach Burnout Inventory. Burnout and work engagement are considered each other's opposites, particularly as far as exhaustion and vigour, and cynicism and dedication are concerned (Schaufeli & Bakker, 2004), and it is suggested that burnout and work engagement will show strong negative correlations (Maslach & Leiter, 1997). Absorption and professional efficacy seem to be less related than the other dimensions. Thus, these dimensions were excluded in a possible model of work wellness within the insurance industry.

The state of an individual's wellness will have both individual and organisational consequences (Porter, Kraft & Claycomb, 2004; Schaufeli & Bakker, 2004). Besides the undesirable health consequences, it has become clear that 'unhealthy' work can also create

substantial financial costs for an organisation (Verhoeven, Maes, Kraaij & Joekes, 2003). Schaufeli and Bakker (2001; 2004) and Jones and Fletcher (1996) indicate that any job viewed from an interactional perspective can be analysed in terms of two elements, namely job demands and job resources. Jones and Fletcher (1996, p. 34) define Job demands as "the degree to which the environment contains stimuli that peremptorily require attention and response. Demands are the things that have to be done". Job demands are those physical, psychological, social or organisational aspects of the job that require sustained physical and/or psychological effort and are therefore associated with certain physiological and/or psychological costs (Schaufeli & Bakker, 2004). Job resources refer to those physical, psychological, social or organisational aspects of the job that either (1) reduce job demands and the associated physiological and psychological costs; or (2) are functional in achieving work goals; or (3) stimulate personal growth, learning and development (Schaufeli & Bakker, 2004).

In terms of work-related variables, burnout and work engagement seem to be differentially related. Schaufeli and Bakker (2004) found that burnout mediates the relationship between job demands and reported health problems. Work engagement mediated the relationship between job resources and turnover intention. Consequently, burnout seems to be associated with the demands of the job, while work engagement seems to be related to the availability of job resources. Job demands and job resources may ultimately have an impact on the decision of an employee to stay in or leave the service of an organisation.

In terms of intention to leave or turnover intention, Lingard (2003) found that both exhaustion and cynicism were strong predictors. Labour turnover involves redundant monetary and non-monetary costs, which can have a detrimental impact upon organisational effectiveness (Lingard, 2003). Shirom (1986) also found that burnout predicts job dissatisfaction and intention to leave. However, as Hughes (2001) notes, intention to leave can be constrained by the availability of acceptable alternatives. It can therefore be that burnt-out and dissatisfied employees are remaining in their jobs because of a perceived lack of more satisfactory alternatives.

It is possible that certain variables might moderate or mediate the negative effects or outcomes of high job demands and a lack of job resources. In her study amongst community college nursing faculty members, Talbot (2000) found that humour mediates academic stress

related to burnout. A variable such as dispositional optimism has been found to moderate or act as a buffer against possible burnout (Fry, 1995; Seligman & Cshikszentmihalyi, 2000). Chang, Rand and Strunk (2000) found optimism to be negatively associated with exhaustion and cynicism and positively associated with professional efficacy. Optimism has also been found to moderate the relationship between daily hassles and health outcomes (Fry, 1995), hassles and psychological symptoms (Lai, 1996) and perceived stress and depression (Sumi, Horie & Hayakawa, 1997). Cooper, Dewe and O'Driscoll (2001, p. 117) define a moderator as "a variable that affects the direction and/or strength of the relation between an independent or predictor variable and a dependent or criterion variable". Mediator variables typically explain how or why a predictor variable influences an outcome variable (Baron & Kenny, 1986).

A combination of burnout (exhaustion and cynicism), work engagement (vigour and dedication), optimism, health outcomes, job demands, job resources and intention to leave in a causal model of work wellness for employees in an insurance company in South Africa could not be found in the literature. Therefore, it was the objective of this study to develop and test a causal model of work wellness for employees in an insurance company in South Africa, inclusive of optimism, health, job characteristics and intention to leave.

Job characteristics and work wellness

Building on the work of Karasek (Fox, Dwyer & Ganster, 1993) and research on the Maslach Burnout Inventory (MBI), Maslach and Jackson (1986) proposed a descriptive heuristic framework, stating that the presence of particular demands (i.e. work overload and personal conflicts) and the absence of particular resources (i.e. control coping, social support, autonomy and decision involvement) would lead to the prevalence of burnout, resulting in other expected negative outcomes, such as physical illness, turnover and absenteeism. Demerouti, Nachreiner, Bakker and Schaufeli (2001) developed the Job Demand-Resources (JD-R) model and confirmed that job demands are associated with exhaustion, whereas lacking job resources are associated with disengagement. Work engagement is positively associated with job characteristics that might be labelled as resources, motivators or energisers, such as social support from co-workers and superiors, performance feedback, coaching, job autonomy, task variety and training facilities (Schaufeli & Bakker, 2004).

Job characteristics are the specific tasks that make up an individual's job (Cooper et al., 2001). According to Maslach et al. (2001), job characteristics can be divided into job demands and a lack of job resources. Job demands refer to those physical, social or organisational aspects of the job that require sustained physical or mental energy (Demerouti et al., 2001; Jones & Fletcher, 1996; Schaufeli & Bakker, 2004), the consequences of which are associated with physiological or psychological costs, e.g. work overload, personal conflicts and emotional demands, such as demanding clients. Although these strains or demands are not necessarily negative, they can turn into job stressors when meeting these high demands requires sustained effort, and are consequently associated with negative causal responses in the long run, such as depression, anxiety or burnout.

Schaufeli and Bakker (2004) extended the JD-R model by including work engagement and by adding indicators for health impairment and organisational withdrawal in the Comprehensive Burnout and Work 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 organisational outcomes. In a study done in the Netherlands testing the COBE model, Schaufeli and Bakker (2004) found work engagement to mediate the relationship between job resources and turnover intention.

A lack of content variety and control, poor interpersonal relationships, job insecurity and high quantitative workload contributed to feelings of job dissatisfaction among employees in an insurance company (Lindström et al., 1997). The continuous organisational restructuring affects perceived job characteristics and the health and well-being of employees. Despite these negative outcomes to overload and a lack of job resources, Chan (2002) found that life insurance agents enjoy greater personal autonomy in their work. Much of the stress and strain experienced, specifically by insurance agents, lies in the transactions and negotiations with strangers, with the unknown, the unfamiliar, the unpredictable (Chan, 2002). A generally supportive work environment in the insurance industry, along with the instrumental and emotional help provided by the formal and informal support networks within the company, contributed to lower perceived stress levels.

Levels of burnout increase as the intensity of job experience and the demands of the employee increase (Elloy, Terpening & Kohls, 2001). Work overload, role conflict and role

ambiguity appear to increase the frequency of burnout (Maslach & Jackson, 1986). Lower levels of burnout are reported by employees who experience autonomy in their jobs, positive feedback, an opportunity to use their professional skills, and a work environment free of ambiguity (Savicki & Cooley, 1987).

Dispositional optimism

Cooper et al. (2001) found that there has been a recent rekindled interest in the moderating effects of personality variables and dispositions in the prediction of employee attitudes, affective reactions and behaviours in terms of the individual stressful experience. Moderator variables affect the direction and/or strength of the relation between independent (predictor) variables and dependent (criterion) variables (Baron & Kenny, 1986). The influence of a moderator variable is a function of the relationship between the moderator variable and the independent variable, significantly affecting the main relationship between the independent and dependent variables. This study focuses on the moderating effect of dispositional optimism on the burnout-health relationship.

Dispositional optimism has a positive effect on personal adjustments, life satisfaction and overall well-being (Scheier & Carver, 1992). Optimism is the conviction that the future holds desirable outcomes, irrespective of one's personal ability to control these outcomes (Marshall, 1990). Optimism has been identified as an important factor in physical health, especially for people experiencing stress (Cassidy, 2000). Fry (1995) found that optimism significantly moderates the relationship between daily hassles and self-esteem maintenance, burnout and physical illness. Chang et al. (2000) found that optimistic people feel less exhausted and cynical while experiencing a greater sense of accomplishment. Optimism is regarded as a personality trait that can help people cope with the negative effects of stress (Scheier & Carver, 1985). Optimism is furthermore also associated with improved immune functioning and lower neuroticism scores (Ebert, Tucker, Roth, 2002; Scheier, Carver & Bridges, 1994; Segerstrom, Taylor, Kemeny & Fahey, 1998; Shea, Burton & Girgis, 1993).

Carver and Scheier (2002) regard optimism as a basic quality of personality. Optimism influences people's orientation to events in their lives, people's subjective experiences when confronting problems and the action people engage in when trying to deal with these problems. Mäkikangas and Kinnunen (2003) found that time pressures at work were most

strongly related to mental distress among female employees reporting low optimism. When problem-focused coping is not a possibility, optimists turn to strategies such as acceptance and positive reframing (Harju & Bolen, 1998).

Fry (1995) and Mäkikangas and Kinnunen (2003) have found dispositional optimism to be significantly negatively related to burnout, more specifically to the exhaustion component. Relationships between optimism and distress have been examined in diverse groups of people facing difficulty or adversity (e.g. Aspinwall & Taylor, 1992; Long, 1993; Sumi, 1997). According to Hasan and Power (2002, p. 1), "optimistic people make stable-global-internal attributions for positive events and unstable-specific-external attributions for negative events, whereas pessimistic people do just the opposite". However, it seems as if optimistic people are better equipped to handle stress. They (optimists) rely more on strategies which could help control or modify aspects of stressors, they normally seek information, and are more involved in planning and positive re-framing (Jackson, Weiss & Lundquist, 2001). Pessimists on the other hand tend to employ strategies such as negative coping, cognitive or behavioural avoidance, denial, disengagement and/or substance abuse (Harju & Bolen, 1998; Jackson et al., 2001). As a result, optimism has mostly been linked to active, persistent, health-oriented coping, while pessimism is more likely to be linked to emotional distress, health concerns and negative coping (Harju & Bolen, 1998). Optimists therefore experience less distress than pessimists when dealing with difficulties in their lives. In line with Schweizer, Beck-Syeffer and Schneider (1999), it can be suggested that individual well-being depends on optimism.

Based on the above discussion, the following hypotheses are formulated:

H1: Burnout is positively related to job demands (i.e. overload) and negative related to job resources, whilst work engagement is positively related to job resources. Physical and psychological ill health is positively associated with burnout, while work engagement is negatively related to turnover intention.

H2: Dispositional optimism moderates the effects of job demands and job resources on work wellness and ill health.

METHOD

Research design

A cross-sectional survey design was used. Cross-sectional designs are appropriate where groups of subjects at various stages of development are studied simultaneously, whereas the survey technique of data collection gathers information from the target population by means of questionnaires (Burns & Grove, 1993).

Study population

The study population could be defined as an availability sample of employees in an insurance company. The total population of 1 100 employees in an insurance company was targeted. A response rate of 56,50% was achieved, of which 613 responses (98,55%) could be utilised.

Descriptive information of the sample is given in Table 1.

Table 1

Characteristics of the Participants

Item	Category	Frequency (Percentage)
Education	Grade 10 (Standard 8)	8,35
	Grade 12	52,70
	Grade 12 + Diploma	23,13
	Grade 12 + Higher Diploma or Degree	11,83
	Grade 12 + Higher Diploma or Degree (Honours)	2,78
	Grade 12 + Higher Diploma or Degree (Masters)	1,22
Role	Clerical	49,24
	Professional	6,79
	Management: Gr. 12-11	12,73
	Management: Gr.10-8	20,54
	Management: Gr. 7-5	10,02
	Management: Gr. 4-3	0,68
	Management: Gr. 2-1	0,00
Gender	Male	42,74
	Female	57,26
Race	Black	10,95
	White	45,92
	Coloured	38,56
	Asian	4,58
Marital Status	Single	20,46
	Engaged or in Close relationship	10,64
	Married	58,43
	Divorced	7,69
	Separated	0,82
	Remarried	1,96
Home Language	Afrikaans	34,04
	English	55,48
	Other	10,47

The sample consisted mainly of English-speaking, married females (57,26%) with a Grade 12 certificate. The mean age of the participants was 35,50 years, while the average length of service was 7,55 years.

Measuring battery

The following measuring instruments were used in the empirical study:

The *Exhaustion* and *Cynicism* subscales of the *Maslach Burnout Inventory – General Survey* (MBI-GS) (Maslach, Jackson & Leiter, 1996) were used to measure burnout. The Exhaustion subscale (Ex) has five items; e.g. "I feel used up at the end of the workday". The Cynicism subscale (Cy) also has five items; e.g. "I have become less enthusiastic about my work". These two subscales form the core components of burnout. Internal consistencies (Cronbach alpha coefficients) reported by Maslach et al. (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) (Maslach et al., 1996). All items are scored on a seven-point frequency-rating scale ranging from 0 (*never*) to 6 (*daily*). The construct validity of the MBI-GS was confirmed in various studies (Coetzer & Rothmann, in press; Storm, 2002). The following Cronbach alpha coefficients were obtained for the MBI-GS: Exhaustion: 0,86 to 0,88; Cynicism: 0,79 to 0,80 (Coetzer & Rothmann, in press; Storm, 2002).

The *Vigour* and *Dedication* subscales of the *Utrecht Work Engagement Scale* (UWES) (Schaufeli et al., 2002) were used to measure work engagement. Initially work engagement was viewed as the positive antithesis of burnout, but according to the scale developers, it can be operationalised in its own right. The items are scored on a seven-point frequency-rating scale, varying from 0 (*never*) to 6 (*every day*). The questionnaire consists of 17 questions and includes questions like "I am bursting with energy every day in my work"; "Time flies when I am at work" and "My job inspires me". The alpha coefficients for the three subscales varied between 0,68 and 0,91. In a South African sample of police officers, Storm (2002) obtained the following alpha coefficients for the two subscales: Vigour: 0,78; Dedication: 0,89, while Naudé (2003) obtained the following alpha coefficients in a sample of emergency workers in South Africa: Vigour: 0,70; and Dedication: 0,83. Coetzer and Rothmann (in press) obtained alpha coefficients of 0,80 for Vigour and 0,87 for Dedication in a sample of employees in an insurance company.

The *Life Orientation Test – Revised* (LOT-R), a ten-item measure, was developed by Scheier et al. (1994) to measure dispositional optimism. Six items contribute to the optimism score and four items are fillers. The original Life Orientation Test (Scheier & Carver, 1985) consisted out of a two-factor structure. The LOT-R was developed after the two-factor structure (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

is measured on a five-point Likert Scale, ranging from 5 (*strongly agree*) to 1 (*strongly disagree*). The LOT-R was found to have adequate internal consistency (Cronbach $\alpha = 0,78$) 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.

The *Health subscales of the ASSET* (which stands for 'An Organisational Stress Screening Evaluation Tool') were developed by Cartwright and Cooper (2002) to assess the respondents' level of health. The Health subscales consist of 19 items arranged on two subscales: Physical health and Psychological wellbeing. All items on the Physical health subscale relate to physical symptoms of stress. The role of this subscale is to give an insight into physical health, not an in-depth c linical diagnosis. The items listed on the Psychological wellbeing subscale are symptoms of stress-induced mental ill health. Johnson and Cooper (2003) found that the Psychological wellbeing subscale has good convergent validity with an existing measure of psychiatric disorders, the General Health Questionnaire (GHO-12; Goldberg & Williams, 1988).

The *Job Characteristics Scale (JCS)* was developed for the purpose of this study to measure job demands and job resources for employees. The JCS consists of 48 items. Various demands and resources in the organisation were identified and measured 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 at work, information, communications, participation, contact possibilities, uncertainty about the future, remuneration and career possibilities. The internal consistency and construct validity of the scale will be determined.

Intention to leave was measured by asking respondents to rate on a five-point Likert scale ranging from 1 (*agree*) to 5 (*disagree*) their agreement with the statement whether they consider quitting their current work and/or profession.

Statistical analysis

The statistical analysis was conducted with the aid of the SAS programme (SAS Institute, 2000) and the AMOS programme (Arbuckle, 1997). Prior to principal factor extraction, principal component extraction was done to estimate the number of factors, the presence of outliers and the factorability of the correlation matrices. Descriptive statistics (means, standard deviations, skewness and kurtosis) were also computed to describe the data. Cronbach alpha coefficients and inter-item correlations were used to determine the internal consistency, homogeneity and unidimensionality of the measuring instruments (Clark & Watson, 1995).

Pearson product-moment correlation coefficients were used to specify the relationship between the variables. In terms of statistical 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.

Covariance analysis or structural equation modelling (SEM) methods, as implemented by AMOS (Arbuckle, 1997), were used to construct and test the causal model of work wellness. Hypothesised relationships are tested empirically for goodness-of-fit with the sample data. The χ^2 and several other goodness-of-fit indices summarise the degree of correspondence between the implied and observed covariance matrices. However, because the χ^2 statistic equals $(N-1)F_{min}$ this value tends to be substantial when the model does not hold and the sample size is large (Byrne, 2001). Researchers addressed the χ^2 limitation by developing goodness-of-fit indices that take a more pragmatic approach to the evaluation process.

A value <2 for χ^2/degrees of freedom ratio (CMIN/*df*) (Wheaton, Muthén, Alwin & Summers, 1977) indicates acceptable fit (Tabachnick & Fidell, 2001). The Goodness-of-Fit Index (GFI) indicates the relative amount of variance and co-variance in the sample predicted by the estimates of the population. It usually varies between 0 and 1, and a result of 0,90 or above indicates a good model fit. The Adjusted Goodness-of-Fit Index (AGFI) is a measure of the relative amount of variance accounted for by the model, corrected for the degrees of freedom in the model relative to the number of variables. Both these values are classified as

absolute values, because they compare the hypothesised model with no model at all (Hu & Bentler, 1995). Although both indices vary between 0 and 1, the distribution of the AGFI is unknown, and consequently no critical value can be obtained (Jöreskog & Sörbom, 1986). The Parsimony Goodness-of-Fit Index (PGFI) addresses the issue of parsimony in SEM (Mulaik, James, Van Altine, Bennet, Lindi & Stillwell, 1989). Although this index generally demonstrates lower levels in comparison to the other fit indices at the 0,50 level in comparison to values higher than 0,90, values > 0,80 are considered to more appropriate (Byrne, 2001).

The Normed Fit Index (NFI) is used to measure global model fit. The NFI represents the point at which the model being evaluated falls on a scale running from a null model to perfect fit. This index is normed to fall on a 0 to 1 continuum and tends to overestimate fit in smaller samples. The Comparative Fit Index (CFI) also compares the hypothesised and independent models, but takes sample size into account. The Tucker-Lewis Index (TLI) is a relative measure of covariation explained by the hypothesised model which has been specifically designed for the assessment of factor models (Tucker & Lewis, 1973). Critical values for good model fit have been recommended for the NFI, CFI and TLI to be acceptable above the 0,90 level (Bentler, 1992), although recently Hu and Bentler (1999) recommended a cut-off value of 0,95. The Root Mean Square Error of Approximation (RMSEA) estimates the overall amount of error; it is a function of the fitting function value relative to the degrees of freedom (Brown & Cudeck, 1993). Hu and Bentler (1999) suggested a value of 0,06 to indicate acceptable fit, whereas MacCallum, Browne and Sugawara (1996) recently suggested that values between 0,08 and 1,0 indicate mediocre fit and values above 1,0 poor fit.

RESULTS

Structural equation modelling (SEM) methods, as implemented by AMOS (Arbuckle, 1997), were used to test the factorial models for wellness (burnout and work engagement), ill health (Health subscales of the ASSET), and dispositional optimism (LOT-R). Data analysis was conducted in two consecutive steps. Firstly a quick overview of the model fit was done by looking at the overall χ^2 value, together with its degrees of freedom and probability value. Several goodness-of-fit statistics (GFI, AGFI, PGFI, NFI, TLI, CFI and RMSEA) were used

to assess the model fit globally. Secondly, given findings of a poor-fitting initially hypothesised model, exploratory analysis was done. Possible misspecifications, as suggested by the so-called modification indices, were looked for in order to fit a revised, re-specified model to the data.

Firstly, models of wellness, which incorporate the core of burnout (exhaustion and cynicism) and the core of work engagement (vigour and dedication), were tested. Three models were tested, namely a) Model 1 – a one-factor model where all four dimensions load on one factor, b) Model 2 – a four-factor model, where exhaustion and cynicism load on burnout, and vigour and dedication load on work engagement, c) Model 3 – a three-factor model with exhaustion and cynicism loading on burnout and work engagement incorporates vigour and dedication in one dimension. The goodness of fit statistics are reported in Table 2.

Table 2

Goodness-of-Fit Statistics for the Hypothesised Wellness Models

Model	χ^2	χ^2/df	GFI	AGFI	PGFI	NFI	TLI	CFI	RMSEA
Model 1 (one-factor)	670,38	5,12	0,90	0,87	0,69	0,88	0,89	0,90	0,08
Model 2 (one-factor)	582,02	4,48	0,91	0,88	0,69	0,90	0,91	0,92	0,08
Model 1 (four-factor)	590,35	4,47	0,91	0,88	0,70	0,90	0,91	0,92	0,08
Model 2 (four-factor)	503,45	3,84	0,92	0,89	0,70	0,91	0,92	0,93	0,07
Model 1 (three-factor)	649,72	4,89	0,89	0,86	0,70	0,89	0,89	0,91	0,08
Model 2 (three-factor)	505,75	3,89	0,92	0,89	0,70	0,91	0,92	0,93	0,07

Results indicated that the three-factor model provided the best fit. Inspection of the modification indices (MI) revealed that the fit between the model and the data could be further improved if correlation was allowed between the measurement errors of cynicism and work engagement. This means that the fit of the proposed model can be improved if the measurement errors between Item 14 and 15 of the MBI (MI = 78,84) and between Item 1 and 19 (MI = 24,03) and Item 7 and 13 (MI = 35,19) of the UWES are allowed to correlate. The revised model – including covariation – shows acceptable fit (χ^2 = 505,75, GFI = 0,92, RMSEA = 0,07, CFI = 0,93, IFI = 0,93, and TLI = 0,92). A negative correlation of 0,71 was found between work engagement and burnout.

Hypothesised model: LOT-R model

A two-factor model and a one-factor model were tested. Table 3 presents fit statistics for the test of the original and subsequent models.

Table 3

Goodness-of-Fit Statistics for the Hypothesised LOT-R Model

Model	χ^2	χ^2/df	GFI	AGFI	PGFI	NFI	TLI	CFI	RMSEA
Two-factor model	21,99	1,37	0,99	0,97	0,38	0,97	0,98	0,99	0,03
One-factor model 1	78,10	4,34	0,96	0,91	0,41	0,88	0,84	0,90	0,07
One-factor model 2	30,39	1,90	0,98	0,96	0,38	0,95	0,96	0,98	0,04

The statistically significant χ^2 value of 21,99 ($df = 16$; $p = 0,00$) indicates a good overall fit of the originally hypothesised LOT-R model. The fit statistics indicate excellent fit of the measurement model to the data. However, subsequent analyses indicated unacceptably low alpha coefficients for both the Pessimism and Optimism factors. Therefore, it was decided to test a one-factor model which includes all six items. The statistically significant χ^2 value of 78,10 ($df = 18$; $p = 0,00$) is indicative of a poor overall fit to the theoretical one-factor model of the LOT-R. The goodness-of-fit indices also support this finding by not reaching the recommended critical values. To pinpoint possible areas of misfit, modification indices were examined. A relatively high modification index was found between items 4 and 10 (MI = 10,75 for the Afrikaans- and African-language groups and MI = 24,04 for the English-language group). As a result, the errors of these two items were allowed to correlate (LOTR4-LOTR10), given the comparatively high covariance associated with these errors.

The various fit statistics of model 2 indicate an incremental improvement from the first model fit with the empirical data. With the exception of the PGFI, all fit indices indicated an acceptable fit with the data, with $\chi^2 = 30,39$ ($df = 16$; $p = 0,00$). A difference of $\Delta\chi^2_{(2)} = 47,71$ was found between Model 1 and Model 2, which is statistically significant ($p < 0,01$). Because this model represented acceptable comparative evidence of fit between the empirical data and a theoretical model in line with the theoretical premises of the LOT-R, no further modification of the model was deemed necessary.

Hypothesised model: Health model

The full two-factor model consisting of 18 items was tested. Table 4 presents fit statistics for the test of the original and subsequent models.

Table 4

Goodness-of-Fit Statistics for the Hypothesised Health Model

Model	χ^2	χ^2/df	GFI	AGFI	PGFI	NFI	TLI	CFI	RMSEA
Model 1	575,88	4,30	0,90	0,87	0,70	0,88	0,89	0,91	0,07
Model 2	343,74	2,73	0,94	0,92	0,69	0,93	0,94	0,95	0,05

The statistically significant χ^2 value of 575,88 (df = 134; p = 0,00) is indicative of a poor overall fit with the theoretical two-factor model of the Health subscale. The goodness-of-fit indices also support this finding by not reaching the recommended critical values. The PGFI is lower than 0,80 and values lower than 0,90 for the AGFI, NFI and TLI were found. The RMSEA value is also higher than the recommended value of 0,05. In order to obtain a better fit between the theoretical two-factor model with the population data, modification of the model is needed. Errors on the Psychological Health factor were allowed to correlate, given the comparatively high covariance associated with these errors. The fit statistics of Model 2 indicate an incremental improvement from the first model fit with the empirical data. All fit indices indicated an acceptable fit at best with the data, with χ^2 = 343,74 (df = 126; p = 0,00). A difference of $\Delta\chi^2_{(8)}$ = 232,14 was found between Model 1 and Model 2, which is statistically significant (p < 0,01).

The results of the factor analysis on the JCS are shown in Table 5. Loading of variables on factors, communalities and percent of variance and covariance is shown. Variables are ordered and grouped by size of loading to facilitate interpretation. Zeros represent loadings that are under 0,45 (20% of variance). Labels for each factor are suggested in a footnote.

Table 5

Factor Loadings, Communalities (h^2), Percentage Variance and Covariance for Principal Factors Extraction and Varimax Rotation on JCS Items

Item	F_1	F_2	F_3	F_4	F_5	F_6	F_7	F_8	h^2
30. Does your direct supervisor inform you about how well you are doing in your work?	0,78	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,69
27. Do you know exactly what your direct supervisor thinks of your supervision?	0,75	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,63
24. In your work, do you feel appreciated by your supervisor?	0,74	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,69
29. Do you receive sufficient information on the results of your work?	0,62	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,51
23. Do you get on well with your supervisor?	0,62	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,48
22. Can you count on your supervisor when you come across difficulties in your work?	0,60	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,54
34. Can you discuss work problems with your direct supervisor?	0,57	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,52
28. Do you receive sufficient information on the purpose of your work?	0,55	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,51
31. Are you kept adequately up-to-date about important issues within your department?	0,47	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,48
25. Do you know exactly what other people expect of you in your work?	0,47	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,44
35. Can you participate in decisions about the nature of your work?	0,00	0,59	0,00	0,00	0,00	0,00	0,00	0,00	0,58
17. Do you have an influence on the planning of your work activities?	0,00	0,59	0,00	0,00	0,00	0,00	0,00	0,00	0,47
36. Do you have a direct influence on your department's decisions?	0,00	0,57	0,00	0,00	0,00	0,00	0,00	0,00	0,43
32. Is your department's decision-making process clear to you?	0,00	0,56	0,00	0,00	0,00	0,00	0,00	0,00	0,51
33. Is it clear to you whom you should address within your department for specific problems?	0,00	0,55	0,00	0,00	0,00	0,00	0,00	0,00	0,48
18. Can you participate in the decision about when a piece of work must be completed?	0,00	0,51	0,00	0,00	0,00	0,00	0,00	0,00	0,38
13. Does your job offer you opportunities for personal growth and development?	0,00	0,00	0,74	0,00	0,00	0,00	0,00	0,00	0,68
14. Does your work give you the feeling that you can achieve something?	0,00	0,00	0,66	0,00	0,00	0,00	0,00	0,00	0,62
12. Do you have enough variety in your work?	0,00	0,00	0,60	0,00	0,00	0,00	0,00	0,00	0,49
15. Does your job offer you the possibility of independent thought and action?	0,00	0,00	0,49	0,00	0,00	0,00	0,00	0,00	0,49
11. Does your work make sufficient demands on all your skills and capacities?	0,00	0,00	0,47	0,00	0,00	0,00	0,00	0,00	0,34
45. Do you think you are paid enough for the work that you do?	0,00	0,00	0,00	0,84	0,00	0,00	0,00	0,00	0,77
43. Do you think your department pays good salaries?	0,00	0,00	0,00	0,80	0,00	0,00	0,00	0,00	0,77
44. Can you live comfortably on your pay?	0,00	0,00	0,00	0,75	0,00	0,00	0,00	0,00	0,65
46. Does your job offer you the possibility to progress financially?	0,00	0,00	0,00	0,58	0,00	0,00	0,00	0,00	0,57
2. Do you work under time pressure?	0,00	0,00	0,00	0,00	0,64	0,00	0,00	0,00	0,45
4. Do you have to be attentive to many things at the same time?	0,00	0,00	0,00	0,00	0,64	0,00	0,00	0,00	0,45
6. Do you have to remember many things in your work?	0,00	0,00	0,00	0,00	0,62	0,00	0,00	0,00	0,41
5. Do you have to give continuous attention to your work?	0,00	0,00	0,00	0,00	0,61	0,00	0,00	0,00	0,45
1. Do you have too much work to do?	0,00	0,00	0,00	0,00	0,59	0,00	0,00	0,00	0,39
41. Do you need to be more certain that you will keep your current job in the next year?	0,00	0,00	0,00	0,00	0,00	0,96	0,00	0,00	0,95
40. Do you need to be more certain that you will still be working in one year's time?	0,00	0,00	0,00	0,00	0,00	0,85	0,00	0,00	0,76

Table 5 (continued)

Factor Loadings, Communalities (h^2), Percentage Variance and Covariance for Principal Factors Extraction and Varimax Rotation on JCS Items

42. Do you need to be more certain that you will keep the same work duties / functions next year as they are currently?	0,00	0,00	0,00	0,00	0,00	0,73	0,00	0,00	0,56
20. If necessary, can you ask your colleagues for support?	0,00	0,00	0,00	0,00	0,00	0,00	0,74	0,00	0,62
19. Can you count on your colleagues when you come across difficulties in your work?	0,00	0,00	0,00	0,00	0,00	0,00	0,65	0,00	0,53
21. Do you get on well with your colleagues?	0,00	0,00	0,00	0,00	0,00	0,00	0,46	0,00	0,28
39. Do you find that you have enough contact with colleagues during working hours?	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,73	0,60
38. Can you have a chat with colleagues during working hours?	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,73	0,59
Squared Multiple Correlations (SMC)	0,85	0,76	0,78	0,87	0,82	0,96	0,75	0,74	
Proportion variance	0,11	0,07	0,07	0,06	0,06	0,05	0,04	0,03	
Proportion co-variance	4,53	6,75	7,23	7,92	8,60	10,10	11,68	14,99	

F_1 Supervision F_2 Participation F_3 Task Characteristics F_4 Remuneration F_5 Overload F_6 Job Insecurity F_7 Support of Colleagues F_8 Contact

Eight internally consistent factors were extracted. With a cut-off of 0,45 for inclusion of a variable in interpretation of a factor, 10 out of 48 variables did not load on the factors.

The first factor was labelled *Supervision*. Items loading on this factor relate to supervision in the work environment. It involves mainly the receiving of sufficient information regarding work results, purpose of work and work performance, clear expectations from superiors and peers, and relationship with immediate supervisor. The second factor was labelled *Participation* and included participation in planning work activities and decision-making. The third factor was labelled *Task characteristics*. The items that loaded on this factor include aspects such as opportunities for growth and development. The fourth factor was labelled *Remuneration* and included perceptions of pay and the ability to progress financially. The fifth factor was labelled *Overload*. The items that loaded on this factor include aspects such as time pressure, attentiveness to too many things at the same time and too much work to do. The sixth factor was labelled *Job Insecurity*, reflecting respondents' indication that they need to be more secure in keeping their current job in the next year; that they would still be working in one year's time and would keep the current level of functioning. The seventh factor was labelled *Support of Colleagues*. The items that loaded on this factor include aspects such as relying on colleagues when facing difficulties at work, asking colleagues for help and getting on well with colleagues. The eighth factor was labelled *Contact* and

measured whether sufficient contact opportunities with colleagues existed in the work context.

For the purposes of the test of a causal model of wellness, the following seven factors of the JCS were subjected to a second order factor analyses: Supervision, Participation, Task Characteristics, Remuneration, Overload, Job Insecurity and Social Support. The scores on Support of Colleagues and Contact were combined into one factor (namely Social Support), because these two factors were related (r = 0,36). Two factors, namely Job demands (Overload) and Job resources (Supervision, Participation, Task Characteristics, Remuneration, Job Insecurity and Social Support) were extracted.

The descriptive statistics, alpha coefficients and inter-item correlation of the measuring instruments, namely the MBI-GS, UWES, JCS, the Health subscales (YH) and LOT-R, are given in Table 6.

Table 6

Descriptive Statistics, Alpha Coefficients and Inter-Item Correlations of the MBI-GS, UWES, LOT-R, YH and JCS

Item	Mean	*SD*	Skewness	Kurtosis	*r* (Mean)	α
MBI-GS						
Exhaustion (Ex)	15,11	0,05	-0,02	-0,58	0,54	0,86
Cynicism (Cy)	9,16	0,10	0,20	-0,67	0,50	0,80
UWES						
Work engagement	35,56	10,79	-0,57	-0,30	0,48	0,89
LOT-R						
Optimism total	18,21	0,12	-0,21	-0,41	0,32	0,70
YH						
Physical Health	14,79	0,05	0,01	-0,67	0,38	0,79
Psychological Health	16,10	0,06	0,14	-0,56	0,55	0,89
JCS						
Supervision	29,38	0,11	-0,16	-0,67	0,50	0,91
Participation	16,58	0,08	-0,05	-0,46	0,43	0,82
Task Characteristics	12,73	0,12	0,18	-0,63	0,48	0,82
Remuneration	7,68	0,08	0,60	-0,49	0,66	0,89
Overload	14,71	0,09	-0,08	-0,58	0,39	0,76
Job Insecurity	7,50	0,11	0,04	-1,08	0,73	0,89
Social Support	19,20	3,08	-0,35	-0,38	0,34	0,76

Table 6 shows that acceptable Cronbach alpha coefficients varying from 0,70 to 0,91 were obtained for the scales (see Nunnally & Bernstein, 1994). The mean inter-item correlations of most of the scales are acceptable ($0{,}15 \leq r \leq 0{,}50$, Clark & Watson, 1995). The inter-item correlations of four scales, namely Exhaustion, Psychological Health, Remuneration and Job Insecurity, are somewhat high. It is evident from Table 6 that most of the scales of the measuring instruments have relatively normal distributions, with low skewness and kurtosis.

The product moment correlation coefficients between burnout, work engagement, optimism, health and job characteristics are given in Table 7.

Table 7

Product-Moment Correlation Coefficients between the MBI-GS, UWES, LOT-R, Health Subscales and the JCS

Item	1	2	3	4	5	6	7	8	9	10	11	12
1. Exhaustion	.	.	.	.	.	.	.	.	.	.	.	.
2. Cynicism	0,53*++	.	.	.	.	.	.	.	.	.	.	.
3. Work engagement	-0,40*+	-0,57*++	.	.	.	.	.	.	.	.	.	.
4. Optimism	-0,33*+	-0,40*+	0,41*+	.	.	.	.	.	.	.	.	.
5. Physical Health	0,46*+	0,36*+	-0,35*+	-0,32*+	.	.	.	.	.	.	.	.
6. Psychological Health	0,56*++	0,42*+	-0,48*+	-0,37*+	0,69*++	.	.	.	.	.	.	.
7. Supervision	-0,28*	-0,38*+	0,45*+	0,33*+	-0,22*	-0,29*	.	.	.	.	.	.
8. Participation	-0,25*	-0,37*+	0,47*+	0,32*+	-0,23*	-0,32*+	0,65*++	.	.	.	.	.
9. Task Characteristics	-0,26*	-0,50*+	0,57*++	0,38*+	-0,22*	-0,25*	0,48*+	0,53*++	.	.	.	.
10. Remuneration	-0,28*	-0,34*+	0,35*+	0,36*+	-0,24*	-0,24*	0,43*+	0,35*+	0,49*+	.	.	.
11. Overload	0,30*	0,05	0,06	0,02	0,19*	0,24*	-0,07	-0,02	0,17*	-0,05	.	.
12. Job Insecurity	0,12*	0,15*	-0,08	-0,21*	0,18*	0,14*	-0,19*	-0,11*	-0,11*	-0,20*	0,05	.
13. Social Support	-0,20*	-0,16*	0,21*	0,22*	-0,17*	-0,19*	0,46*+	0,35*	0,20*	0,13*	-0,07	-0,09*

* $p \leq 0{,}05$ – statistically significant

+ $r > 0{,}30$ – practically significant (medium effect)

++ $r > 0{,}50$ – practically significant (large effect)

Inspection of Table 7 indicates that Exhaustion is significantly positively related (large effect) to Cynicism and Psychological Health and significantly positively related (medium effect) to Physical Health. Exhaustion is significantly negatively related (medium effect) to Work engagement and Optimism. Cynicism is significantly negatively related (large effect) to Work engagement and significantly negatively related (medium effect) to Optimism,

Supervision, Participation, Task Characteristics and Remuneration. Cynicism is significantly positively related (medium effect) to Physical and Psychological Health. Work engagement is significantly positively related (large effect) to Task Characteristics and significantly positively related (medium effect) to Optimism, Supervision, Participation and Remuneration. Work engagement is significantly negatively related (medium effect) to Physical and Psychological Health.

Optimism is significantly positively related (medium effect) to Supervision, Participation, Task Characteristics and Remuneration and significantly negatively related (medium effect) to Physical and Psychological Health. Physical Health is significantly positively related (large effect) to Psychological Health. Psychological Health is significantly negatively related (medium effect) to Participation. Supervision is significantly positively related (large effect) to Participation and significantly positively related (medium effect) to Task Characteristics, Remuneration, and Social Support. Participation is significantly positively related (large effect) to Task characteristics and significantly positively related (medium effect) to Remuneration. Task characteristics are significantly positively related (medium effect) to Remuneration.

Next, a model based on the results of the product-moment correlations, the work wellness model, as well as consensus of findings based on a review of the literature on work wellness with specific bearing on the insurance industry was tested with SEM analysis. Results indicated that the model did not fit the data adequately. Further modification of the model was thus required. Inspection of the modification indices (MI) revealed that the fit between the model and the data could be further improved if correlation was allowed between the measurement errors of job characteristics and burnout and work engagement dimensions. It is important to note that items with identical rating scales often have correlating measurement errors (Byrne, 1989). This means that the fit of the proposed model can be improved if the measurement errors between Supervision and Participation (MI = 57,81), between Supervision and Social Support (MI = 47,02), between Task Characteristics and Overload (MI = 36,64) and between Burnout and Work Engagement (MI = 66,28) are allowed to correlate. The revised model – including covariation – shows a good fit (χ^2 = 245,34, GFI = 0,94, RMSEA = 0,08, CFI = 0,94, IFI = 0,94, and TLI = 0,91). The final model is given in Figure 1.

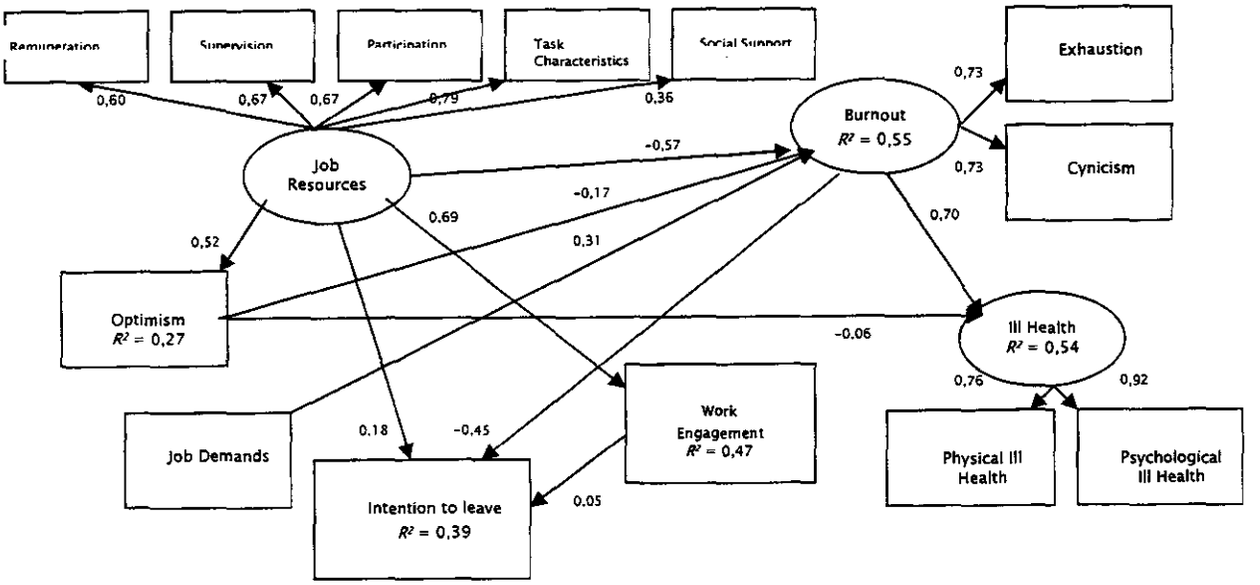

Figure 1. A causal model of work wellness

As can be seen in Figure 1, the path from Job Resources to Burnout, Work Engagement and Intention to leave are significant. This means that a lack of resources, such as remuneration, supervision, participation, task characteristics and support of colleagues, increases the levels of burnout of employees, as well as the intention to leave the organisation. On the other hand, the availability of job resources increases the levels of work engagement. The path from Job demands to Burnout is significant. This means that employees who experience excessive workloads are likely to develop high levels of burnout which, in turn, may lead to health problems. The path coefficient from job resources to optimism and from optimism to burnout and health is significant. This means that optimism moderates the effects of a lack of job resources on burnout and mediates the effects of a lack of job resources on ill health.

Based on the above-mentioned findings, both Hypotheses 1 and 2 are accepted.

DISCUSSION

The aim of this study was to develop and test a causal model of work wellness for employees in an insurance company, comprising stressors caused by demands of the job and resource availability, strain and optimism. First the construct validity and internal consistency of the

the UWES, the Health subscales of the ASSET, the LOT-R and Job Characteristics Scale were determined. Coetzer and Rothmann (in press) found acceptable goodness of fit statistics for the three-factor structure of the MBI-GS and the three-factor structure of the UWES for employees in an insurance company. However, in the South African context Naudé (2003) and Rothmann and Storm (2003) studied the internal factorial validity, structural equivalence and bias of the UWES. These studies have found high correlations between the work engagement dimensions of vigour, dedication and absorption and suggested that work engagement (as measured by the UWES) is a one dimensional construct.

The results obtained using the structural equation modelling approach supported a two-factor structure for the LOT-R. However, based on the poor reliability results obtained for the Optimism scale, the decision was made to use only a one-factor structure for the LOT-R. A one-factor structure for the LOT-R indicated a good fit with the original model. The structural equation modelling of the Health subscales indicated a good fit with the original models. Reliability analysis revealed that all the subscales of the different instruments were sufficiently internally consistent.

After factor analysis, eight internally consistent factors were extracted in the JCS. With a cut-off of 0,45 for inclusion of a variable in interpretation of a factor, 10 out of 48 variables did not load on the factors. The eight factors were labelled: Supervision, Participation, Task characteristics, Remuneration, Overload, Job Insecurity, Support of Colleagues and Contact.

For the purposes of the test of a causal model of wellness, seven factors of the JCS were subjected to a second order factor analyses: Supervision, Participation, Task Characteristics, Remuneration, Overload, Job Insecurity and Social Support. The scores on Support of Colleagues and Contact were combined into one factor (namely Social Support), because these two factors were related (r = 0,36). Two factors, namely Job demands (Overload) and Job resources (Supervision, Participation, Task Characteristics, Remuneration, Job Insecurity and Social Support) were extracted.

The analysis of Pearson correlations in this study showed that exhaustion and cynicism are negatively related to work engagement and optimism. Exhaustion and cynicism are positively related to strain (physical and psychological health), whilst work engagement is negatively related to strain. Cynicism is negatively related to job resources such as supervision,

participation, task characteristics and remuneration. Work engagement is positively related to optimism and job resources such as supervision, participation, task characteristics and remuneration.

The structural equation analysis showed that a lack of resources, including unfair remuneration, poor supervision, poor social support, lack of participation and lack of task characteristics on the one hand increased the levels of burnout of employees in an insurance company, and on the other hand decreased their levels of work engagement. Research indicates that employees in the insurance industry tend to show a lot of job insecurity (Lindström et al., 1997). Continuous organisational restructuring affects perceived job characteristics and the health and well-being of employees. Other reported job resources that have been eroded include the lack of content variety and control, high demands of attention and high physical workload and poor interpersonal relationships (Lindström et al., 1997).

In a study by Lai, Chan, Ko and Boey (2000) it was found that job resources related to relations with superiors and colleagues were among the least stressful situations experienced by employees in an insurance company. Social support is an important resource since it can promote better well-being when combined with the characteristics of the job. It can be argued that employees in the insurance industry will experience role ambiguity when they perceive a lack of social support, and vice versa. Coping assistance from both the supervisor and colleagues, together with a supportive departmental climate and practical assistance in the department, may reduce the levels of both exhaustion and dissatisfaction (Van Emmerik, 2002).

The results showed that work overload of employees in an insurance company may lead to higher levels of burnout (Exhaustion and Cynicism). According to Cordes and Dougherty (1993), exhaustion is primarily a response to demand stressors placed upon individuals, especially work overload. Stressors directly concerned with job demands like time pressure, meeting deadlines, dealing with difficult clients and work overload lead to adverse work consequences (Lai et al., 2000).

Regarding health, structural equation modelling indicated that burnout, a lack of job resources and job demands were related to physical and psychological ill health. This indicates that employees in an insurance company suffering high levels of burnout, a lack of

resources and high demands would develop physical and psychological health problems. The 'burned-out' employee is likely to experience stress-related health problems since burnout is frequently linked with illness (see Kahill, 1988; Lee & Ashforth, 1990; Maslach, 1982).

Burnout and low work engagement (which both indicate mental distance of employees toward their work) lead to an intention to leave the company (Lingard, 2003; Shirom, 1986). The results indicate a path from burnout to intention to leave, indicating that employees in an insurance company that experience high levels of burnout may be more inclined to leave the company. A path between Job Resources and intention to leave was also found. This indicates that a lack of job resources can contribute to employees' having an intention to leave the company. On the other hand, the path obtained between work engagement and intention to leave indicates that employees who experience work engagement with their work are not likely to leave the company.

Another objective of this study was to determine if dispositional optimism could act as a moderator between the effects of job resources on burnout. Optimism moderated the relationship between a lack of Job Resources and Burnout whilst it mediated the effect of a lack of Job Resources on Ill health. In the literature, evidence of the moderating effect of optimism was found in that it significantly moderates the relationship between daily hassles and self-esteem maintenance, burnout and physical illness (Fry, 1995). Optimism has been identified as an important factor in physical health, especially for people experiencing stress (Cassidy, 2000).

The structural model provides support for the COBE model (Schaufeli & Bakker, 2004). 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, in that job demands lead to higher levels of exhaustion and cynicism. The motivational process links job resources via work engagement with organisational outcomes, in that job resources lead to lower levels of exhaustion and cynicism and higher levels of work engagement. It can be argued that employees in an insurance company are likely to become victims of burnout when there is an increase in job demands without any corresponding increases in job resources, while higher levels of work engagement is experienced when there is an increase in job resources.

RECOMMENDATIONS

Given the pervasive nature of burnout, organisations, and especially insurance companies, should implement planned interventions to prevent burnout in their employees and to increase the levels of work wellness. Although it is important to assist individual employees whose psychological well-being is affected by their work, an organisational rather than an individual approach is more likely to be effective, as most stressors were found to be at an organisational level. A more desirable strategy is therefore to make the organisation inherently less stressful. Since job demands play a central role in burnout and work engagement, it is necessary to implement preventive organisationally based strategies to tackle high job demands and to manage a lack of job resources.

It is recommended that the organisation provide adequate resources and encourage the use of problem-focused strategies, which in turn would result in the positive evaluation of professional competence and the prevention of the onset of burnout, and increase the levels of experienced work engagement, ultimately impacting on the work wellness of the individual. Furthermore, demonstration of a positive evaluative orientation of employees in the insurance industry towards their work and recent experiences to deal with their problems actively, to share experiences in a social support setting and to recognise the value of religious support in understanding their environment would lead to employees experiencing prolonged fulfilment, dedication and intrinsic enjoyment in their work.

In terms of future research, the development of a causal model of work wellness of employees within the insurance industry with the inclusion of stressors due to job demands and job resources, optimism as a moderator and the inclination to leave the organisation needs not only to be validated in future studies, but also to be expanded to other occupations in order to further refine and expand our understanding of the different occupational contexts. Also, job demands, lack of resources and strain should be studied objectively to understand the relationships between these variables.

A limitation of this study is that the design is cross-sectional. As a result, no casual inferences could be drawn, despite the use of advanced structural equation modelling techniques. Therefore, the casual relationships between variables were interpreted rather than established, and more complex forms of non-recursive linkages could not be examined. Furthermore, the

results were obtained solely by self-report measures. This may lead to a problem commonly referred to as "method variance" or "nuisance".

Future studies on the work-related attitudes of employees within the insurance industry should focus on positive, work-related attitudes and behaviours at work in longitudinal and experimental designs. Furthermore, positive constructs such as work engagement as part of a work wellness model should be further investigated in other occupations in South Africa and included in causal models. Consequently, information could be gleaned with regard to the experience of wellness in a positive paradigm of study, which could significantly expand research with regard to the insurance industry and other occupations, which was previously predominantly studied from a pathogenic framework. Research should also be conducted to evaluate the effectiveness of interventions to promote work wellness.

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CHAPTER 5

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

The purpose of this chapter is to provide conclusions regarding the results of the empirical studies of the three research articles. Conclusions are drawn with regard to the research objectives. Furthermore, limitations of the study are discussed. Finally, recommendations for the organisation are made and research opportunities that emanate from this research are presented.

5.1 CONCLUSIONS

The general objective of this research was to standardise the Maslach Burnout Inventory – General Survey (MBI-GS) and the Utrecht Work Engagement Scale (UWES) for employees working in an insurance company and to develop causal models of work wellness and strain of employees in an insurance company. Based on the results of the three research articles, the following conclusions can be made:

Burnout is a syndrome consisting of three characteristics, namely exhaustion, cynicism and reduced professional efficacy. Exhaustion refers to the depletion or draining of emotional and physical resources, cynicism points to the development of negative, callous or excessively detached responses toward various aspects of the job and a lack of professional efficacy refers to feelings of incompetence as well as a lack of achievement and productivity at work.

The first objective of this study was to determine the construct validity and internal consistency of the MBI-GS for employees in an insurance company. The results obtained using the structural equation modelling approach supported a three-dimensional factor structure. However, based on both conceptual and empirical grounds, item 13 was eliminated from the original MBI-GS, resulting in a 15-item scale. It seems as if the problems with item 13 might be caused by the ambivalent nature of this item. On the one hand, a high score may indicate disengagement and social isolation by persons closing themselves from contacts with others at work. On the other hand, a higher score may indicate strong motivation and engagement: one concentrates on the task and does not want to be interrupted. Reliability analysis revealed that all three subscales were sufficiently internally consistent.

The second objective was to determine if the scales of the MBI-GS show construct equivalence for different demographic groups in an insurance company. The results of this study confirm the construct (structural) equivalence of the MBI-GS for different language groups (i.e. an English group and a combined Afrikaans and African group). Therefore, it can be deduced that the same constructs of burnout were measured in the two groups.

Work engagement consists of three characteristics, namely vigour, dedication and absorption. Vigour refers to high levels of energy, mental resilience as well as a willingness to exert effort and persist, dedication refers to a sense of significance, enthusiasm, inspiration, pride, challenge and absorption refers to a tendency to be fully concentrated and deeply engrossed in work.

The third objective of this study was to determine the construct validity and internal consistency of the UWES for employees in an insurance company. Within South African studies, Storm (2002) indicated in her study in the police service that a three-dimensional factor structure of work engagement was not valid and that a one-factor structure was more acceptable. Naudé (2003) indicated in his study among emergency workers that the one-factor structure revealed overall poor fit with the data, but found acceptable fit for a three-factor structure of work engagement. Within the current study, it was decided to test a three-factor and a one-factor model. Both the one-factor model and the theoretical three-factor model revealed overall poor fit, even after model development. These findings could possibly be explained by the possibility of semantic differences in terms of understanding the content of the items by the different language groups. It is possible that certain items were misunderstood by some of the language groups, which led to inconsistent responses by the different language groups.

Within this context four of the original items were replaced with items that were written in a more familiar South African vocabulary. Item 4 ("I feel strong and vigorous in my job.") was replaced with item 19 ("I feel strong and full of energy in my work."). Item 9 ("I feel happy when I am engrossed in my work.") was replaced with item 18 ("I feel happy when my attention is totally focused on my work."). Item 11 ("I am immersed in my work.") was replaced with item 21 ("I enjoy devoting all my attention and energy to my work."). Item 15 ("I am very resilient, mentally, in my job.") was replaced with item 20 ("In my job I can comfortably deal with stressful situations and I easily recover from such situations."). The

adjusted three-factor model was fitted with the data, and after model development, the three-factor structure of work engagement was confirmed. However, items 14 ("I get carried away when I'm working.") and 16 ("It is difficult to detach myself from my job") both loading on Absorption, 17 ("At my work I always persevere, even when things do not go well.") and 20 ("In my job I can comfortably deal with stressful situations and I easily recover from such situations.") both loading on Vigour, were deleted, resulting in a 13-item scale. These items showed high standardised residual errors. It can also be that these items are somewhat ambiguous, or that they are either sample- or country-specific. Based on these results, it seems as if the UWES must undergo intensive psychometric evaluation before it could be used as a suitable instrument for measuring work engagement of employees in an insurance company. Reliability analysis revealed that all three subscales were sufficiently internally consistent.

The fourth objective was to determine if the scales of the UWES show construct equivalence for different demographic groups in an insurance company. The results of this study confirm the construct (structural) equivalence of the adjusted UWES for different language groups (i.e. an English group and a combined Afrikaans and African group). Therefore, it can be deduced that the same constructs of engagement were measured in the two groups.

The continuous exposure to things like change, competitiveness and rivalry, can result in feelings of stress. Stress can be described as a serious of factors that have their beginnings in one's actual surroundings and conclude with the individual's reactions (Rothmann, Jackson & Kruger, 2003). Stressful events may lead to strain (Rowe, 2000) and it is clear in the literature that if strain is not managed, it may have a negative impact on the health and well-being of individuals (Winefield, Gillispie, Stough, Dua & Hapuararchchi, 2002). The fifth objective was to determine the various occupational stressors experienced within an insurance company.

Within this study the importance of understanding the impact of occupational stress as a factor that affects employees were clear. The ASSET (which refers to An Organisational Stress Screening Tool) was found to be an internally consistent and valid measuring instrument of occupational stress among employees in an insurance company. An overall satisfactory fit with the original ASSET model was obtained, except for the dimension of Health, which was adjusted by correlating three pairs of errors on the Psychological Health

Questionnaire (Item 10 and Item 12; Item 10 and Item 18; Item 12 and Item 16) and one pair of errors on the Physical Health Questionnaire (Item 4 and Item 6).

Physical and psychological health was found to be the major outcomes of stress for employees. High levels of experienced occupational stress may result in ill health with either physical or psychological health problems, or both. However, the experience of occupational stress and ill health can be moderated by the commitment of individuals towards the organisation. When an individual experiences high levels of occupational stress without coping or handling the stress, his or her level of commitment towards the organisation may as a result become lower.

The results indicated that stressors related to Work-Life Balance, Resources and Communication and Job Characteristics are perceived as sources of low levels of stress among the population. However, two items of the Job Characteristics Scale (as measured by the ASSET) give indications of high levels of stress perceived in these areas, namely "Work performance is closely monitored", and "Work is dull and repetitive". Under the Job Security dimension, one stress-provoking area is reflected by the item "My skills may become redundant". This indicates that employees may experience feelings that the niche they provide via their unique skills may become obsolete in the organisation. The high sten on "Pay and benefits not as good as those of others in similar jobs" under the Pay and Benefits dimension is perceived by the population as a high stress-provoking area. It therefore seems that the specific occupational stressors that were indicated within an insurance company had to do with work performance management, characteristics of the actual job, redundancy of skills in the near future and remuneration.

The sixth objective was to determine if biographical factors (i.e. department, level, years of experience, etc.) have an impact on the experience of occupational stressors. The results obtained in this study indicated that there is a difference in the experience of occupational stress based on job category and length of service.

The seventh objective was to determine whether organisational commitment will moderate the experience of occupational stress on health outcomes within an insurance company. The results indicated that Commitment from Individual has a moderating effect on the experience of both occupational stress and ill health. It means that when the commitment of the

individual towards the organisation is high, it will moderate the effect of occupational stress on physical and psychological ill health. When an individual experiences high levels of occupational stress without coping with or handling the stress, his or her level of commitment towards the organisation may as a result become lower.

The eighth objective was to determine whether burnout and engagement are negatively related in a sample of insurance employees. Burnout and work engagement are independent states that, because of their antithetical nature are negatively related (Schaufeli & Bakker, 2004). Within this study the negative relationship between burnout and work engagement were confirmed. Both burnout and work engagement have an impact on the wellness of employees within organisations. From a theoretical point of view, burnout comprises two key aspects, namely exhaustion and cynicism. Indeed, some empirical findings point to the central role of exhaustion and cynicism as opposed to a lack of professional efficacy (Schaufeli, 2003). Burnout and work engagement are considered each other's opposites, particularly as far as exhaustion and vigour, and cynicism and dedication are concerned (Schaufeli & Bakker, 2004). Within this study, burnout (comprising exhaustion and cynicism) and work engagement (comprising vigour and dedication) formed the main constructs of a work wellness model of employees in an insurance company. The ninth objective of this study was to develop and test a casual model of work wellness comprising burnout and engagement for employees working in an insurance company and to test effects on health and propensity to leave.

It was decided to test a one-factor (comprising exhaustion, cynicism, vigour and dedication loading on wellness), a four-factor (comprising exhaustion and cynicism loading on burnout, and vigour and dedication loading on engagement) and a three-factor model (comprising exhaustion and cynicism loading on burnout and a combined engagement dimension). Results indicated that the three-factor model provided the best fit against the data, albeit after some measurement errors had been allowed to correlate. A negative correlation of 0,71 was also found between engagement and burnout.

The casual model of work wellness provides support for the COBE model (Schaufeli & Bakker, 2004). 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, in that job demands lead to higher levels of exhaustion and cynicism. The

motivational process links job resources with organisational outcomes via engagement, in that job resources lead to lower levels of exhaustion and cynicism and higher levels of work engagement.

An instrument named the *Job Characteristics Scale* (JCS) was developed for the purpose of this study to measure the job demands and job resources for employees. The JCS proved to be a valid and reliable instrument for measuring job demands and job resources in an insurance company. Seven factors were extracted and were labelled as follows: *Supervision* (relates to supervision in the work environment, the receiving of sufficient information regarding work results, purpose of work and work performance, clear expectations from superiors and peers, and relationship with immediate supervisor); *Participation* (includes participation in planning work activities and decision-making); *Task characteristics* (includes aspects such as opportunities for growth and development); *Remuneration* (includes perceptions of pay and the ability to progress financially); *Overload* (includes aspects such as time pressure, attentiveness to too many things at the same time and too much work to do); *Job Insecurity* (reflects respondents' indication that they needed to be more secure in keeping their current job in the next year; that they would still be working in one year's time and would keep the current level of functioning); *Social Support* (includes aspects such as relying on colleagues when facing difficulties at work, asking colleagues for help and getting on well with colleagues).

For purposes of the test of a causal model of wellness, Support of Colleagues and Contact were combined into one factor (namely Social Support), because these two factors were related (r = 0,36). Two factors, namely Job Demands (Overload) and Job Resources (Supervision, Participation, Task Characteristics, Remuneration, Overload, Job Insecurity and Social Support) were subtracted.

The results in this study indicated in the case of employees in an insurance company that their wellness is either affected or enhanced if the work wellness model is adapted. Based on the work wellness model it is clear that a lack of resources, such as remuneration, supervision, participation, task characteristics and support of colleagues, increases the levels of burnout of employees, as well as the intention to leave the organisation. On the other hand, the availability of job resources increases the levels of work engagement. Employees who

experience excessive workloads are likely to develop high levels of burnout which, in turn, may lead to health problems.

The tenth objective of this study was to determine whether optimism moderates the effects of a lack of job resources work wellness and ill health within an insurance company. The results indicated that there is a path from job resources to optimism and from optimism to burnout and health. This implies that optimism moderates the effects of a lack of job resources on burnout and mediates the effects of a lack of job resources on ill health.

5.2 LIMITATIONS OF THIS RESEARCH

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

Secondly, as the data was collected from the different divisions within the insurance company at different points in time, unique organisational characteristics and/or historical events may have affected the findings. Also, because of the average levels of education of the respondents, as well as the array of language and cultural groups included in the study, the interpretation of questions could have differed vastly among participants.

Thirdly, the size of the sample was a limitation to this study, specifically the distribution of language groups. Within the sample the distinction between cultural groups could not be made due to low representation of some cultural groups. A distinction was made in terms of the language groups i.e. an English group (55,48% representation) and a combined Afrikaans and African group (44,52% representation).

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

Fifthly, the sampling procedure created problems, and future studies could benefit from using a stratified random-sample design, which would ensure sufficient representation of the different groups in the total population and will enable generalisation of findings to the total study population.

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

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

In terms of determining the construct equivalence of the MBI-GS and the UWES, items of the UWES were allowed to correlate in the model specification. This may impose interpretation problems on the UWES, as correlated error items are added to the model, the

correspondence between the posited construct of interest and the empirically defined factor becomes unclear (Gerbing & Anderson, 1984).

5.3 RECOMMENDATIONS

Recommendations pertaining to the specific organisation used in this study, as well as recommendations for future research, are made in this section.

5.3.1 Recommendations for the organisation

The effective implementation of individual, managerial and organisational practices to enhance work wellness within the organisation depends on managers' and employees' clear and accurate understanding of work wellness and the constructs that comprise work wellness, i.e. burnout and work engagement. Managers and employees should become aware of the factors that decrease work wellness and the factors that enhance work wellness. This could help them become aware of the symptoms of decreasing wellness within the work environment and enable them to intervene before the effects become too serious. It is also important for managers, should it be the case, to be made aware of the fact that they may have an impact on the wellness of their employees.

Given the negative impact of low levels of work wellness as well as occupational stress, it is important that the insurance company design and implement planned interventions. These interventions should be designed for the long term and deal with the root cause rather than just the symptoms (Lee & Ashforth, 1996). According to Kompier and Kristensen (2001) interventions may be focused on three different levels, namely the primary, secondary and tertiary levels.

Primary interventions may be directed at either the work situation or the coping capacity of the employee. Work-oriented interventions aim to improve the fit between an individual and the workplace. Worker-oriented interventions aim at teaching the 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. Secondary-level interventions can be implemented to prevent employees who are already showing signs of stress or decreased work wellness from getting sick and to increase their optimism levels and coping capacity. Typical examples

would include cognitive structuring, time management, conflict resolution techniques and coping strategies. Tertiary-level interventions are concerned with the rehabilitation of individuals who have suffered ill health or reduced well-being as a result of (ill) health in the workplace.

Since occupational stress plays a central role in the process that might lead to a reduced work wellness and health problems, reducing these stressors seems to be warranted. If the physical and psychological stressors especially are allowed to continue unattended, the organisation can expect to encounter negative costs associated with continued, elevated levels of stress, such as burnout, absenteeism, employee turnover and lowered levels of service. The organisation is therefore advised to take note of the impact of stressors such as the characteristics of the job in the working environment in order to protect both the employee and the organisation, especially as it seems that the longer an individual stays in the company, the more his or her perceived stress starts to manifest in either physical or psychological health problems.

It is also important not to take only a preventative role in terms of interventions, but also to implement interventions that are focused on the enhancement of work wellness within the organisation. The use of the MBI-GS to assess burnout levels, the UWES to assess work engagement and the ASSET to assess occupational stress may assist the organisation in planning the necessary interventions. Maslach, Schaufeli and Leiter (2001) indicate that changes in managerial practice should be combined with educational interventions. It is not enough just to change the work setting or the individual. Effective change takes place where both these aspects are addressed in an integrated way.

5.3.2 Recommendations for future research

Despite the limitations of this study, the present findings may have important implications for future research and practice. First, the fact that burnout can be found within as well as outside human-service professions, as indicated in this research and in the research of Naudé (2003) and of Storm (2002), may stimulate future burnout and ultimately work wellness research in a wide range of occupations (Schutte, Toppinen, Kalimo & Schaufeli, 2000). Future research in South Africa needs to focus on the reliability and validity of the MBI-GS and the UWES for

other occupational settings in South Africa. Research also needs to be conducted in other occupational groups that may serve as normative samples and as reference for relative burnout and work engagement levels of individuals in other occupations. Due to possible semantic differences, it is recommended that the MBI-GS and the UWES be translated into other languages used in South Africa. This will assist in the establishment of culture-fair unbiased measurements of burnout and work engagement

Burnout and work engagement are independent states that, because of their antithetical nature, are negatively related (Schaufeli & Bakker, 2004). As burnout is a result of decreased psychological well-being and therefore has an impact on the work wellness of employees, it is expected that work engagement, as the opposite of burnout, will have a positive impact on the work wellness of employees. Future studies should focus on the development of a casual model of work wellness comprising the positive and negative aspects of burnout and engagement for different occupational setting. The structure of these concepts in the work wellness model needs to be further investigated and validated.

The causal model of work wellness of employees within the insurance industry, developed in this study, with the inclusion of burnout, work engagement, stressors due to job demands and a lack of job resources, optimism as a mediator and the inclination to leave the organisation, need to be validated in future studies as well as be expanded to other occupational groups. Within this context, the use of adequate statistical methods, such as structural equation modelling and bias analysis is recommended. Furthermore, causal models of work wellness utilising longitudinal research designs is recommended. Research is also needed regarding the effects and underlying processes of work wellness, in order to determine the true constructs impacting on and enhancing work wellness in different occupations.

The COBE model could assist in the development of a causal model of work wellness by testing the extent to which job demands are related to the affective dimension of well-being and job resources to the cognitive dimension (Schaufeli & Bakker, 2004). Within this context, job demands, a lack of job resources and strain should be studied objectively to better understand the relationships between these variables and to be able to put preventative measures in place. It is also necessary to determine the construct validity and internal consistency of the Job Characteristic Scale (JCS), as developed in this study, for different occupations in South Africa and to confirm the structure of the JCS.

Furthermore it is necessary to include personality variables in future work wellness research. Future research needs to explore the underlying mechanisms of personality that produce different coping patterns and preferences. Future studies should focus more on the positive work-related attitudes and behaviours at work and on positive constructs such as work engagement and its role on the work wellness of employees within different occupational settings. Research should also be conducted to evaluate the effectiveness of interventions to increase work wellness.

Further refining and testing of the ASSET in the insurance industry is needed. In stress research in general it is important to take a holistic approach in terms of stress and "ill" health of the employee (Cooper, Dewe & O'Driscoll, 2001) in order to minimise the negative effects of occupational stress.

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

- The effects of individual and organisational interventions should be investigated.

- Appropriate designs and acceptable sample sizes should be used when conducting research.

- Practical significance of findings should be computed in addition to statistical significance.

- Methods for defining and determining the clinical significance of treatment effects should be employed (Jacobson, Roberts, Berns & McGlinchey, 1999).

- Intervention mapping (Bartholomew, Parcel & Kok, 1998) should be used in planning, implementing and researching the effects of interventions.

- Different types of change (alpha, beta and gamma) should be considered when researching the effect of interventions (Vandenberg & Self, 1993).

- Both etiological and prevention effectiveness studies should be conducted (Skov & Kristensen, 1996).

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