

An assessment of the invariance of work-related well-being in selected South African sectors

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COMMENTS

The reader should bear the following in mind:

- The editorial style as well as the references referred to in this mini-dissertation follows the format prescribed by the Publication Manual (4th edition) of the American Psychological Association (APA). This practice is in line with the policy of the Programme in Industrial Psychology of the North-West University, Potchefstroom Campus, to use the APA style in all scientific documents.
- The mini-dissertation is submitted in the form of a research article.

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SUMMARY

Title: An assessment of the invariance of work-related well-being in selected South African sectors

Key terms: Exhaustion, cynicism, dedication, job commitments, ill-health, burnout, engagement, job demands and job resources, stress, educators, tertiary staff, insurance personnel; correctional officials.

The current work environment demands a lot from employees. Organisations implement strategies to reduce cost and increase productivity, often ignoring the well-being and needs of employees. Factors such as virtual offices are becoming a reality as cell phones, laptops, tablets and other technology make availability a reality 24 hours a day. This leads to employees being confronted with work wherever and whenever it is required. These factors can lead to distress or eustress or both. Some employees experience symptoms of burnout due to all these demands placed on them, yet others experience eustress. Work well-being is crucial to ensure that employees are engaged and committed to their job and contribute to the success of the organisation they are employed with. In the model of work-related well-being of Nelson and Simmons (2003), which will be discussed in this research, burnout is regarded as distress, while work engagement is regarded as eustress.

The objective of this study is to determine whether a relationship exists between the dimensions of work-related well-being within selected sectors in South Africa – whether it leads to either burnout or work engagement and whether it is similar in different sectors. Various models can be used to explain these effects but for the purposes of this study the following models were consulted, namely the Comprehensive Model of Burnout and Engagement (COBE), the Effort-Recovery (E-R) Model and the Job Demand / Resources (JD-R) model.

The participants in this study are educators and administrative personnel from tertiary education institutions ($n = 1324$), secondary schools ($n = 1177$), employees from the insurance industry ($n = 613$), and correctional services ($n = 892$). The measurement

instruments used are the Maslach Burnout Inventory, the Utrecht Work Engagement Scale and the Job Demands-Resources Scale and the Organisational Stress Screening Tool (ASSET).

The results indicate that there is a relationship between the dimensions of work-related well-being in different sectors and that it has great predictive value in different sectors.

OPSOMMING

Titel: Die assesering van die ooreenstemmings tussen aspekte van werkverwante welstand in geselekteerde Suid-Afrikaanse sektore

Sleuteltermes: Uitputting, psigiese afstand, toegewydheid, werksverbondenheid, ongesondheid, uitbranding, verbondenheid, werkseise, werks hulpsbronne, stres, onderwysers, tersiêre personeel, versekeringsbedryf-personeel en korrektiewe werknemers.

Die omgewing waarbinne werknemers tans funksioneer, vereis meer van hulle as wat dit in vorige eras die geval was. Organisasies implementeer strategieë om koste te verlaag en produktiwiteit te verhoog maar ignoreer dikwels die welstand en behoeftes van werknemers. Aspekte soos virtuele kantore is 'n realiteit met selfone, skootrekenaars en ander tegnologieë wat dit moontlik maak om 24 uur per dag beskikbaar te kan wees om te werk. Hierdie aspekte kan lei tot distres of eustres of beide. In die model vir werkverwante gesondheidswelvaart van Nelson en Simmons (2003) wat in die navorsing bespreek sal word, word uitbranding as distres beskou en werksverbondenheid as eustres.

Die doel van die studie was om te bepaal of 'n verwantskap in geselekteerde sektore in Suid-Afrika tussen die dimensies van werkverwante welstand bestaan. Lei die dimensies tot uitbranding en werksverbondenheid en is dit soortgelyk in verskillende sektore? Verskeie modelle kan gebruik word om die effekte te verklaar maar vir die doel van hierdie studie word die “Comprehensive model of burnout and engagement (COBE)” en die “Effort-Recovery model (E-R model)” gebruik. Die doel is om deur middel van die modelle te bepaal of die komponente vir 'n meetbare model van komponente vir werkverwante gesondheidswelstand soortgelyk is vir verskillende sektore.

Die studie was om te bepaal of die verskillende dimensies binne die model vir werkverwante gesondheidswelstand voorspelbaar is ook in verskillende sektore. Die deelnemers in die studie is werknemers in Tersiêre Instellings wat insluit akademië en administratiewe personeel ($n = 1324$), en Hoërskole ($n = 1177$), sowel as werknemers in die Versekeringsbedryf ($n = 613$), en Korrektiewe Dienste ($n = 892$). Die “Maslach Uitbranding-inventaris”, die “Utrecht Werkbegeesteringskaal” die “Werk Karakteristiek skaal”

meetinstrumente sowel as die “Organisatoriese Stresevalueringsinstrument” is gebruik in die studie.

Die resultate bevestig dat daar wel ’n verhouding bestaan tussen die dimensies van werkverwante welvaart en dat dit toepaslik is in verskillende sektore en voorspelbaarheidswaarde het vir verskillende sektore.

CHAPTER 1

INTRODUCTION

This mini-dissertation focuses on an assessment of the invariance of work-related well-being in selected South African sectors. This chapter contains the problem statement and a discussion of the research objectives in which the general objective and specific objectives are set out. The research method and the division of chapters are also explained.

1.1 PROBLEM STATEMENT

The environment in which employees in South-Africa and elsewhere in the world currently function demands more of them than did any previous period (Rothmann, 2003). Many organisations have implemented strategies that attempt to reduce costs and increase productivity, which often ignores the welfare and needs of employees. Leiter, Jackson and Shaughnessy (2009) note that misfits in a job have decreased the indication of positive effect in work, such as satisfaction and commitment. Negative effects have been identified as exhaustion and anxiety (Leiter & Shaughnessy, 2009). It has been found that people in complex occupations have been experiencing greater exhaustion at work when they perceive a mismatch of their abilities with job demands (Xie & Johns, 1995). The job demands on employees have become greater as technology has advanced and the demand for even greater productivity has increased. This has altered the type of work people have done when they work, and how much they have done. The Virtual office, any work site outside the traditional office in which employees do the work associated with the traditional office, has become a reality. Virtual implies the use of technology. Wherever a computer or cell phone is available, work can be performed. Cellular phones, laptops and other technology have made accessibility possible, 24 hours a day and to work wherever and whenever it is required. These factors have led to either distress, eustress or both (Nelson & Simmons, 2003). In the holistic model of work-related well-being of Nelson and Simmons (2003), burnout has been regarded as distress, while work engagement has been regarded as eustress.

A holistic model of work-related well-being

Literature indicates that exhaustion and mental distancing (cynicism or depersonalisation) has caused the basic hallmarks of burnout (Schaufeli, 2003). Maslach defines exhaustion as the *incapability* of an employee to perform because all energy has been drained, whereas mental distancing has been described as an employee's *unwillingness* to perform because of an increased intolerance of making any effort. Mental distancing (cynicism), or psychological withdrawal from the task, has been an adaptive mechanism for coping with excessive job demands and the resulting feelings of exhaustion (Maslach, Schaufeli & Leiter, 2001). When this coping strategy becomes habitual, as is the case in cynicism and depersonalisation, it disrupts adequate task performance and becomes dysfunctional. In turn, a lack of job resources leads to an increase in job demands and exhaustion which completes the vicious circle (Rothman, 2010). Previous studies indicated burnout to be strongly related to physical and psychological ill-health (Barkhuizen & Rothmann, 2008; Jackson, Rothmann & Van de Vijver, 2006).

According to Leiter and Maslach (1997), burnout has been identified as the psychological syndrome of exhaustion, cynicism and inefficacy. Burnout has been seen as a result of chronic job stressors in otherwise healthy individuals. Two aspects have been identified as causes of burnout and job stress. Firstly, control, where employees need to feel confident that they can act with autonomy and that they can influence decisions. The second is the individual's values versus those of the organisation. Burnout has resulted in a chronic mismatch in important areas of work life (Leiter & Maslach, 1997).

Engagement has been described as an energetic state in which the employee has been dedicated to give excellent work performance and has been confident in his or her effectiveness (Schaufeli, Salanova, González-Romá & Bakker, 2002). More specifically, work engagement has consisted of three dimensions, namely vigour, dedication and absorption. *Vigour* has been characterised by high levels of energy and mental resilience while working, the willingness to invest effort in one's work and persistence, even in the face of difficulties. *Dedication* has been described by a sense of significance, enthusiasm, inspiration, pride and challenge. Work engagement has been related to good health, positive work affect, organisational commitment and job performance (Demerouti, Bakker, de Jonge,

Janssen & Schaufeli, 2001). Effective recovery at home during leisure time has played an important part in work engagement.

Burnout and engagement have been indicators of wellness of employees at work. Schaufeli and Bakker (2004) have suggested that they could be combined in a model of well-being. Based on a theoretical analysis, these authors have identified two underlying dimensions of work wellness: (1) activation, ranging from exhaustion to vigour, and (2) identification, ranging from cynicism to dedication. In theory, burnout has been characterised by a combination of exhaustion (low activation) and cynicism (low identification), whereas engagement has been characterised by vigour (high activation) and dedication (high identification). Accordingly, vigour and dedication have been considered direct opposites of exhaustion and cynicism respectively.

In the holistic model of work-related well-being (Nelson & Simmons, 2003), situational factors (work and home factors), individual factors, and the interaction of these factors have caused burnout or work engagement, which in turn has led to ill-health or positive organisational outcomes. Although various theoretical models could have been used to explain these effects, for purposes of this study, three theoretical models have been consulted, namely the Comprehensive Model of Burnout and Engagement (COBE), the Effort-Recovery (E-R) Model and the Job Demand / Resources model (JD-R) model.

The COBE model (Schaufeli & Bakker, 2004) has explained the causes of burnout and work engagement in terms of job demands and job resources. The COBE model has assumed two related, but clearly different, psychological processes to determine work-related well-being as an energetic and motivational process. Schaufeli and Bakker (2004) describe job demands as those physical, psychological, social, or organisational aspects of the job that require sustained physical and/or psychological (i.e. cognitive or emotional) effort and therefore have been associated with certain physiological and psychological outcomes such as burnout. Schaufeli and Bakker (2004) further indicate that job resources refers to those physical, psychological, social, or organisational aspects of the job that either reduce job demands and the associated physiological and psychological outcomes, or have been functional in achieving work goals and stimulating personal growth, learning and development. The energetic process has linked job demands with health outcomes through burnout. The

motivational process has linked job resources with organisational commitment through engagement (Schaufeli & Bakker, 2004).

Schaufeli and Bakker (2004) have found that burnout has mainly been predicted by job demands and a lack of job resources. Engagement has been exclusively predicted by available job resources. Burnout has been related to health problems as well as to turnover intention, while engagement has been related only to turnover. Barkhuizen and Rothmann, (2008) have indicated that burnout mediates the relationship between job demands and health problems, whereas engagement mediates the relationship between job resources and turnover intention. Studies in South Africa (e.g. Barkhuizen & Rothmann (2008); Jackson et al., 2006) have confirmed the COBE model in studies with primary, secondary and tertiary educators in South Africa. These studies indicate that job demands have led to burnout (exhaustion and cynicism), which in turn has led to ill-health. The availability of job resources has led to work-related well-being (including low exhaustion and cynicism, and high vigour and dedication), which in turn has led to organisational commitment. Where the COBE model has explained the causes of burnout and work engagement in terms of job demands and job resources, the Effort-Recovery (E-R) model has described the influence of work and private life.

The Effort-Recovery (E-R) model has described the influence of work and private life and which mechanisms may affect well-being during this process. The E-R model has been based on exercise physiology, and particularly in its applications to the study of workload in relation to a person's capacity (Geurts, Kompier, Roxburgh & Houtman, 2003). Effort expenditure (i.e. task performance at work) has been associated with specific load reactions (i.e. physiological, behavioral and subjective responses, e.g. changes in hormone secretion, energy levels, and mood) that develop within the individual. Normally these load reactions have been reversible, as long as sufficient recovery, during and after working time, has been applied. However, when opportunities for recovery have been insufficient, recovery from high job demands might be jeopardized. The Job Demand Resource (JD-R) model has been based on two processes, which need to be distinguished. The one process is a motivational process which links job resources to turnover intention through work engagement and then the energetic process which links job demands and health complaints through burnout. (Korunka, Kubicek, Schaufeli & Hoonakker, 2008)

According to Korunka et al. (2008), job resources have been referred to as aspects of the job which are functional in achieving goals, personal growth and development and by reducing job demands. These job resources are either intrinsic or extrinsic motivational roles. It has been determined that if job resources have exerted an intrinsic motivational role it will have the effect of satisfying basic human needs of autonomy, social support and competence. Well-being and commitment increased. This has resulted in lower turnover. Job resources, however, can also result in extrinsic motivators. This has resulted in the successful completion of work tasks in providing required information or an innovative climate.

One of the core concepts of the JD-R model is engagement. Korunka et al. (2008) has identified vigour as high levels of energy, resilience and willingness to put effort into a job. Engaged employees have been experienced as committed to the organisation with less turn over in the organisation, provided that the necessary resources to reach goals were available. Chronic occupational stress has caused burnout. Burnout has been identified as a syndrome of exhaustion, chronic fatigue, cynicism, a distant attitude towards work, and reduced professional efficacy and reduced feelings of competency. The core of burnout has been identified as exhaustion and cynicism.

The JD-R model as illustrated by Korunka (2008) can be viewed in Figure 1. This indicates the interaction and connections between the different aspects of the model. High job demands have led to burnout, ill-health and turn over. Where resources have been provided it has led to engagement. However, a lack of resources, on the other hand, has led to burnout and turnover.

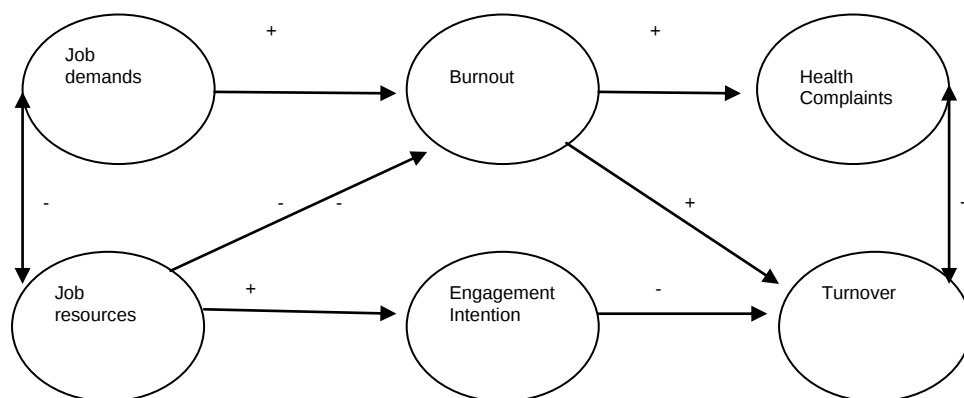


FIGURE 1: The Job Demands-Resources (JD-R) model

From afore-mentioned it can be seen that the different factors in a changing work environment can lead to distress, eustress or both. These factors have been explained in the holistic models of work-related wellbeing, namely where burnout has been regarded as distress and engagement has been regarded as eustress.

1.2 RESEARCH QUESTIONS

Based on the above-mentioned descriptions the following research questions can be formulated:

- Does a relationship exist between work-related well-being dimensions for different sectors?
- What are the levels of work-related well-being as experienced in the different sectors?

1.3 RESEARCH METHOD

1.3.1 Literature review

The literature review focuses on the assessment of the invariance of work-related well-being in selected South African sectors. The focus is to determine whether a relationship exists between work-related well-being dimensions for different sectors. Secondly, what the levels are of work-related well-being as experienced in different sectors.

The sources used include: Article databases such as EBSCOHOST, ScienceDirect, Emerald and Sabinet Online; relevant textbooks; internet-based search engines such as Google Scholar and Google, and, journal articles from various publications such as: *Industrial and Organisational Psychology*; *Stress and health*, *Work and stress* and *Journal of Applied Psychology*.

1.3.2 Research design

A cross-sectional research design with stratified random samples has been implemented. Cross-sectional research is used to examine groups of subjects in various stages of development simultaneously, while the survey describes a technique of data collection in which questionnaires are used to gather data about an identified population (De Vos,

Strydom, Fouche & Delport, 2005) and one group of people is observed at one point in time (Neuman, 1997). With a cross sectional study, both outcomes and exposures are assessed on the individual level, but at a moment in time, without either forward or backward timing. Cross sectional data can be analyzed either in terms of outcome or exposure.

1.3.3 Participants

A random probability sample ($N = 4006$) is taken from Tertiary and High School institutions that include academic and administrative personnel, the Insurance industry and Correctional services. The Tertiary institutions also represent a sample from a University of Technology. The participants ($N = 4006$) included in the study are educators and administrative personnel from tertiary education institutions ($n = 1324$), secondary schools ($n = 1177$), employees from the insurance industry ($n = 613$), and correctional services ($n = 892$).

1.3.4 Measuring instrument

An adapted version of the *Maslach Burnout Inventory – General Survey* (MBI-GS) (Schaufeli, Leiter, Maslach & Jackson, 2009) is used to measure burnout. The following subscales of the MBI-GS are used: Exhaustion (five items; i.e. "I feel used up at the end of the workday"), and Cynicism (seven items; i.e. "I have become less enthusiastic about my work"). All items are scored on a seven-point frequency scale, ranging from 0 (*never*) to 6 (*daily*). Barkhuizen and Rothmann (2008) as well as Jackson and Rothmann (2005) confirmed the construct equivalence and construct validity of these scales. The internal consistencies (Cronbach alpha coefficients) reported by Schaufeli, Van Dierendonck and Van Gorp (1996) varied from 0.87 to 0.89 for Exhaustion, and 0.73 to 0.84 for Cynicism. Test-retest reliabilities after one year were 0.65 (Exhaustion), and 0.60 Cynicism (Schaufeli, Leiter, Maslach & Jackson, 2009). Barkhuizen, Rothmann and Tytherleigh (2008) found internal consistencies of 0.86 and 0.79 for Exhaustion and Cynicism respectively in a sample of academic staff members. In an international study conducted by Pohosyan, Aiken and Sloan (2009) internal consistency of the MBI was found to be 0.80 to 0.93 for exhaustion and for Cynicism 0.71 to 0.82.

The *Utrecht Work Engagement Scale* (UWES) has been developed by Schaufeli et al. (2002) to measure work engagement. Only two of the subscales of the UWES have been used for

purposes of this study, namely *Vigour* (three items; i.e. "I am bursting with energy in my work") and *Dedication* (five items; i.e. "I find my work full of meaning and purpose"). The alpha coefficients for the subscales varied between 0.68 and 0.91 (Schaufeli et al., 2002). Two studies using confirmatory factor analysis demonstrated the factorial validity of the UWES (Schaufeli, Bakker, Hoogduin, Schaap & Kladler, 2001; Schaufeli et al., 2002). Applied to the South African context, Storm and Rothmann (2003) obtained alpha coefficients of 0.78 for *Vigour* and 0.89 for *Dedication* in a sample of police workers. Both Barkhuizen and Rothmann (2006) found that the UWES shows construct equivalence and construct validity for South African academic staff members respectively. Alpha coefficients of 0.90 for both *Vigour* and *Dedication* within the cement producing sector in South Africa was found in a study conducted by Lekutle and Nel (2012).

The *Job Characteristics Scale* (JCS) had been developed by Barkhuizen (2005) to measure job demands and job resources of employees. The JCS consists of 41 items. The questions are rated on a four-point scale ranging from 1 (*never*) to 4 (*always*). The dimensions of the JCS include pace and amount of work, mental load, emotional load, work variety, opportunities to learn, work independence, relationships with colleagues, relationship with immediate supervisor, ambiguities of work, information, communications, participation, contact possibilities, remuneration and career possibilities. In this study organisational support, growth opportunities and advancement were used for job resources while demands and insecurity were used for job demands. Barkhuizen and Rothmann (2008) applied the JCS in a sample of academics in higher education institutions and found that it measures three factors, namely Overload ($\alpha = 0.75$), Resources: Growth and Advancement ($\alpha = 0.85$), and Resources: Structure and Relations ($\alpha = 0.92$). Items regarding work-life balance will be added to the questionnaire. Alpha coefficient results for overload ($\alpha = 0.76$), and control ($\alpha = 0.81$) were also found by Coetzer and Rothmann (2006)

An *Organisational Stress Screening Tool* (ASSET) was used in this study. The ASSET was developed by Cartwright and Cooper (2002) as an initial screening tool to help organisations assess the risk of occupational stress in their workforce. It measures potential exposure to stress in respect to a range of common workplace stressors. It also provides important information on current levels of physical health, psychological well-being and organisational commitment, and provides data with which the organisation can be compared. The ASSET

comprises three main scales: Perceptions of your job: 37 items scored from 1 (strongly disagree about being troubled) to 6 (strongly agree about being troubled); Attitudes towards your organisation (indicating organisational commitment): nine items scored from 1 (strongly disagree) to 6 (agree).

The Health Questionnaire which forms part of the ASSET Organisational Stress Screening tool (Cooper & Cartwright, 1994) was used to measure organisational commitment, physical health and psychological well-being in this study. Affective and behavioural attitudes towards the organisation were used to measure organisational commitment. For organisational commitment nine items were used that were scored from 1 (strongly disagree) to 6 (agree). The questionnaire assesses the respondent's level of health. The questions are rated on a four-point scale ranging from 1 (never) to 4 (often). It consists of 19 items arranged on two subscales: Physical ill-health (for example, "lack of appetite or over-eating") and Psychological unwell-being (for example, "panic or anxiety attacks"). According to the Asset model and the large body of research on which it is based, poor employee health can be indicative of excessive workplace pressure and stress that is experienced. Thus poor health is an outcome of stress and this can be used to ascertain whether workplace pressures have positive and motivating or negative and damaging effects. Internal consistency scores of 0.90 for commitment, 0.80 for physical health and 0.90 for psychological health were reported by Coetzer and Rothmann (2006). Reliability based on the Guttman split-half coefficient gave results of coefficients ranging from 0.60 to 0.91 (Cartwright & Cooper, 2002).

A *biographical questionnaire* was designed and was used to gather information on various aspects of the population, e.g. gender and education.

1.3.5 Statistical analysis

The statistical analysis has been carried out with the SPSS Program version 20 (IBM SPSS, 2011) and the Amos 7 Program (Arbuckle, 2007). Validity of the instruments was determined by conducting a confirmatory factor analysis (CFA). CFA is typically employed if the instruments indicated successive internal consistency, adequate content and construct validity in a previous research (Suhr, 2009). Descriptive statistics (mean and standard deviation) and Cronbach alpha coefficients (α) were used to explore the data and to determine the internal

consistency of the instruments. A coefficient of 0.70 indicates that the items are regarded as internally consistent (Nunnally & Bernstein, 1994). Product-moment correlation coefficients were used to specify the relationship between the variables. In terms of significance, the 95% confidence level ($p < 0.05$) was used. Effect sizes (Steyn, 1999) were applied to decide on the practical significance of the findings. A cut-off point of 0.30 (medium effect, Cohen, 1988) and 0.50 (large effect, Cohen, 1988) was set for the practical significance of correlation coefficients. In addition, descriptive statistics (mean scores) were determined for each dimension and for each sector to establish which sector experiences a particular dimension most and least.

1.4 RESEARCH PROCEDURE

The different Institutions (Tertiary and High School institutions that include academic and administrative personnel, the Insurance industry and Correctional services) were asked for permission to conduct the study. Questionnaires were sent to randomly selected participants. A cover letter explained the purpose of the study, stated that participation was voluntary, and guaranteed confidentiality. Respondents were asked to return the completed questionnaires in a sealed envelope, either to the person that had distributed them or directly to the research team.

The information received was analysed using the SPSS Program and the Amos Program. Descriptive statistics was used to explore the data.

1.5 DIVISION OF CHAPTERS

The chapters are presented as follows in the mini-dissertation:

Chapter 1: Introduction

Chapter 2: Research article

Chapter 3: Conclusions, limitations and recommendations.

1.6 CHAPTER SUMMARY

This chapter has discussed the problem statement and research questions. The measuring instruments and research method used when doing the research were explained. A brief overview of the chapter followed.

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CHAPTER 2
RESEARCH ARTICLE

An assessment of the invariance of work-related well-being in selected South African sectors

ABSTRACT

Orientation. This study aims to determine whether the dimensions of wellness are invariant for different sectors in South Africa.

Research purpose. The objective of this study was to investigate whether a relationship exist between work-related well-being dimensions for different sectors, and to determine what the levels of work-related well-being as experienced in the different sectors are.

Motivation. A clear picture of work-related well-being across various occupations in South African is not yet available.

Research design, approach and method. A survey design was used. Random samples ($N = 4006$) were taken from four occupational groups, namely educators and administrative personnel from tertiary education institutions ($n = 1324$), secondary schools ($n = 1177$), employees from the insurance industry ($n = 613$), and correctional services ($n = 892$). The Maslach Burnout Inventory (MBI-GS), the Utrecht Work Engagement Scale, the Job Demands-Resources Scale and the Organisational Stress Screening Tool (ASSET) was used as measuring instruments.

Main findings. The results showed that the dimensions utilised in this study has predictability value in different sectors, since invariance for the different sectors has been established.

Practical implications. The findings in this study will assist to predict if the work-related wellbeing model can be applied in different sectors.

Contribution. This study contributes to knowledge regarding the work-related well-being in different sectors across South Africa.

Key words: Stress; engagement; burnout, educators, tertiary staff, insurance personnel; correctional officials.

Introduction

The wellness of employees is an important issue for organisations to survive within the competitive environment in which they have to function (Kay & Jordan-Evans, 2005). The work environment is changing rapidly as the urge for global competitiveness increases. Kay and Jordan-Evans further stress the drive for ever increasing productivity, knowledge and competence within the work environment. The reality of several career changes within one's working life is becoming the norm in the world of work. These changes lead to higher demands on employees. Therefore, if sufficient resources are not available, then burnout and ill health could result. On the other hand, if demands are kept manageable and sufficient resources are made available, it has a positive impact that manifests in engagement and organisational commitment (Demerouti, Bakker, Nachreiner and Schaufeli, 2001). The overall purpose of this study was to determine the incidence of variables regarding work-related well-being across South Africa.

Increasing demands are placed on employees of all age groups and all occupations to excel in the work place (Devi, Sellappan & GopalaKrishnana, 2010). One such sector known in particular for its high demands is that of education. With regard to this sector various studies have been published dealing with burnout amongst educators (Amino, 2012; Skaalvik & Skaalvik, 2010). Skaalvik and Skaalvik found in a study on teachers in Norway that low self-efficacy in educators may result in experiences of burnout. Jackson, Rothmann and Van der Vijver (2006) found in a study amongst educators in South Africa that burnout mediated the relationship between high job demands and a lack of job resources. In a study amongst the secondary and tertiary education sectors in Canada, organisational factors relating to administration mostly ranked high as contributing factor to feelings of stress amongst educators (Byrne, 1991).

Another occupation that has been fast growing and rapidly expanding during the last century (Chan, 2002) is employment in the insurance industry. In a study conducted by Coetzer and Rothmann (2006), stress due to job insecurity was found to be particularly high for this group in comparison with other South African organisations. Employment characteristics further played a role in low organisational commitment and subsequently contributed to physical and psychological ill-health. The correctional services are yet another particularly stressful sector

in which to work (Schaufeli and Peeters, 2000). The practice to assist employees with burnout has been essentially overlooked over recent years (Garland, 2002) in this sector. The problem is, however, that burnout can be viewed as having a major effect on employee performance and as such could inhibit the treatment of offenders. In South Africa a study by Botha and Pienaar (2006) amongst correctional officials indicated that they experienced insufficient manpower. As a result, officials have to do additional work outside of normal job requirements, as high job demands against a lack of serviceable equipment place strain on job resources. Employees who are engaged and committed will enable organisations to reach their targets in the competitive world of work (Sheridan, 2012).

For the present study the different occupational groups will be compared by applying measurement invariance. If invariance cannot be established, then the finding of a between-group difference cannot be interpreted unambiguously.

The Job Demands and Resources model (JD-R) (Demerouti et al., 2001) is found popularly in literature to describe the various aspects of work-related well-being. The JD-R model depicts job demands and job resources. Job demands consist of physical, psychological, social or organisational aspects. These aspects require sustained physical and/or psychological effort and are associated with physiological and/or psychological costs (Demerouti, et al., 2001). Job demands can be viewed as those aspects that lead to high work load, role overload, emotional pressures and detrimental environmental conditions. On the other hand, job resources refer to aspects required to achieve work goals, reduce job demands and stimulate personal growth and development in the occupation (Demerouti, 2001). Examples of job resources can mainly be found at organisational level, for example: salary, career opportunities, job security and aspects that add value to the individuals' growth, learning and development within the work environment.

The COBE model is an extension of the JD-R model. Schaufeli and Bakker (2004) added the variables of engagement, health impairment and organisational withdrawal to the model. The JD-R model was initially tested by Schaufeli (2003) and an appropriate application for the model further was found by Jackson, Rothmann, and Van de Vijver (2006) in an educational organisation in South Africa.

Next the literature review will follow where the components of work-related well-being will be discussed. The research method will be deduced from the literature review. This methodology will include a discussion of the participants, measuring instruments and the statistical procedures that were followed. Thereafter the results and discussion will be presented, after which the article is concluded by submitting recommendations and pointing out certain limitations.

Literature review

Work-related well-being

A study of work-related well-being should include the entire continuum of work-related experiences ranging from the negative to the positive poles (Nelson & Simmons, 2003). From the holistic model of Nelson and Simmons (2003) it is clear that work-related well-being can be described as a negative outcome brought on by distress, or a positive outcome as the result of eustress. Research indicates that employees can be influenced by circumstances in organisations which could affect their well-being in a positive or negative manner. The ability to predict both these positive and negative outcomes are vital to ensure the management of successful organisations. The JD-R model developed by Demerouti et al. (2001), gives an indication of predictability in terms of which, the one hand, positive outcomes relate to engagement and commitment, and on the other hand, negative outcomes relate to burnout and ill health. The model depicts different paths that are identifiable when job resources are lacking and employment demands are too excessive to deal with. Moreover, different paths also exist if job resources are inadequate and job demands are manageable.

Job resources can be described as, namely organisational support (salary, career opportunities, job security, human resources, equipment to do the job and work ergonomics), growth opportunities (performance feedback, skill variety, task significances, autonomy, learning and development, (personal and career) and job rotation) and advancement (career advancement in the form of promotion, more accountability, achievement of career and personal goals and growth) (Demerouti et al., 2001).

According to Schaufeli and Bakker (2004), job resources play a dual motivational role. Firstly, it entails a fundamental role in shaping employee's growth, learning and

development. Secondly, it also implies an extrinsic role by being instrumental to employees in achieving work goals. Therefore, when job resources are available, the individual experiences a state of wellness which leads to engagement and commitment.

According to Demerouti et al. (2001), the JD-R model evokes working characteristics consisting of two different psychological processes. The first is an effort driven process, which is also referred to as the energetic process by Schaufeli and Bakker (2004). The second one is the motivation driven process. Job demands imply an effort driven process that causes distress. An employee working under the pressures created by high levels of work load needs the energy and mental effort, to maintain task performance. This burning of extra energy can lead to a condition of acute fatigue. When no recovery ensues, the consistent high job demands and the energy consumed to maintain task performance leads to burnout. This can turn into ill health if there is still no intervention to recover energy and reduce the job load. The second psychological (motivational-driven) process – a positive process – leads to eustress and links job resources through engagement with organisational commitment (Demerouti et al., 2001).

Burnout

Schaufeli and Enzmann (1998) define burnout as a work-related state of mind consisting of three dimensions (exhaustion, cynicism and low professional efficacy). Exhaustion refers to feelings overextension together with reduced emotional and physical resources. Cynicism is defined as a negative, cold, hard or detached response to various aspects of the work environment (Schaufeli, 2003). Professional efficacy can be described as the dimension entailing the self-evaluation of burnout, at which competence and achievement at work is evaluated (Langelaan, Bakker, Van Doornen, & Schaufeli, 2006; Maslach et al., 1996).

Chronic exhaustion can cause employees to distance themselves emotionally and cognitively from their work. As a result they become less responsive to the needs of other people around them or the demands of the task at hand. A strong relationship between exhaustion and cynicism is consistently found when consulting literature related to burnout (Maslach & Leiter, 1997). Chronic exhaustion ultimately will also lead to a depleted sense of efficacy. Furthermore, Maslach and Leiter (1997) indicate that the lack of efficacy seems to arise more clearly from insufficient relevant resources.

Ill-health

According to Rothmann and Essenko (2007), health is important for employees to deliver quality service. Therefore the causes of ill health require closer investigation. Ill-health consists of two characteristics, namely psychological ill-health and physical ill-health. Physical ill-health is related to symptoms concerning the individual's body (Maslach & Leiter, 1997). Chronic stress can lead to physical ill-health symptoms. Such symptoms may include: a weakened immune system, as well as short- and long-term illnesses (e.g. ulcers, heart palpitations, hyperventilation, headaches, colds and flu). Maslach and Leiter (1997) also identified physical problems resulting from burnout, such as headaches, gastro-intestinal illness, high blood pressure, muscle tension and chronic fatigue. Psychological ill-health consists of symptoms, which entail mainly emotional reactions (e.g., emotional outbursts, crying, bouts of anger, depression and anxiety).

According to Meijman and Mulder (1998), tasks often require mental effort in order to be properly performed. When people are in a state of fatigue or experience over-excitement it demands more effort for them to concentrate, divide their attention between various task elements or to solve difficult problems. The state of the informational processing system is less than optimal for task performance. When the load becomes too high, and mental task demands exceed possibilities of self-regulation, a characteristic response can be observed, which causes a stress reaction (psychological or physical). Mental load and fatigue does not refer to people's abilities to deliver a certain effort, but rather to their willingness to do so. The psychological feature of fatigue defines a feeling of aversion to or intolerance against any effort (Meijman & Mulder, 1998).

Engagement

Maslach and Leiter (1997) characterise engagement by energy, involvement and efficacy which are the direct opposites of burnout's features of exhaustion and cynicism. Schaufeli, Salanova, Gonzalez-Roma, and Bakker (2002) view burnout and engagement as opposite concepts. According to Schaufeli and Bakker (2004), engagement is a positive, fulfilling, work-related state of mind, which is characterised by vigour and dedication. Vigour and dedication could therefore be seen as two dimensions of engagement.

- Vigour is characterised by high levels of energy and mental resilience while a person is working. It is the willingness to invest effort into work, not being easily fatigued and having persistence even when faced with difficulties.
- Dedication is to derive a sense of significance from one's work by feeling enthusiastic and proud about one's achievements – inspired and challenged by it.

Kahn (1990) defines engagement as the simultaneous employment and expression of a person's preferred self in task behaviour that promotes connection to work and to others; also to a personal presence and an active, full performance. Kahn further recognised job resources as characteristics of employment situations that shape the degree to which people employ and express themselves physically, cognitively and emotionally during job performance. In this sense job characteristics induce psychological states such as meaningfulness, which drives people's attitudes and behaviours.

Work engagement is positively associated with job resources and the aspects of the job, which hold the capacity to reduce job demands and functions in achieving work goals and stimulating personal growth, learning and development (Demerouti, et al. 2001). The more job resources are available, the more likely employees would feel engaged. Engaged employees view themselves as competent to deal with the demands of their jobs, are energetic and have a sense of effective connection with their work activities. Engagement is therefore seen as a positive, fulfilling, work-related state of mind. Once employees have reached this state of mind they will move on to be committed to the organisation and to their career.

Commitment

Blau and Boal (1987) explain commitment firstly as behaviour according to which the individual is viewed as committed to the organisation because it is too costly to leave, and secondly, the individual's commitment is derived from shared goals and the wish to maintain membership. Siu (2002) identifies commitment as a significant moderator of stress and thus links it to work engagement. Organisational commitment is related to physical and psychological outcomes amongst workers and the moderating effects it has on the stressor-health relationship. According to Siu (2002), such an indirect (or moderating) commitment

protects employees from the negative effect of stress, seeing that it enables them to attach direction and meaning to their work. Organisational commitment provides individuals with stability and a feeling of ‘belonging’. However, being overly committed to the organisation can also inhibit personal growth and thereby prevent an employee from recognising the organisation’s faults – which could result in group thinking (Siu, 2002).

According to Blau and Boal (1987) organisational commitment has two dimensions, namely affective commitment and behavioural commitment. Affective commitment is the extent to which individuals feel their organisation is committed to them. The individual is committed to the organisation because of shared goals and the wish to maintain membership. On the other hand, employers also expect employees to do their job and show loyalty and dedication to the organisation. Blau and Boal (1987) see behavioural commitment as behaviour according to which employees are viewed as committed to an organisation because it is too costly for them to leave. Non-commitment from the individual’s side leads to lack of motivation and may result in turn-over (employees severing ties more frequently) within the organisation.

In terms of the JD-R model depicting the two specific driven paths mentioned earlier, these paths are based on interdependencies between factors that yield certain outcomes (Schaufeli and Bakker, 2004). The first, effort driven path, is predicted in which an overload of job demands accompanied by a lack of job resources, can cause burnout, and in turn lead to ill health. The second, motivation-driven path is predicted in which ample job resources are available. This generates engagement and in turn mediates to commitment. These findings are also supported by a study that was done on teachers in Finland (Hakanen, Bakker, & Schaufeli, 2006).

Measurement Invariance

Measurement invariance is critically important when comparing groups who are working in different industries (Drasgow & Kanfer, 1985). For measurement to be comparable they need an identical (or invariant) quantitative relationship with variables for each population (Widaman and Reise, 1997). If the invariance cannot be established, then the finding of a between-group difference cannot be unambiguously interpreted.

From the discussion above it is clear that there is a need to determine whether the dimensions of wellness are invariant for different sectors. Such a finding will assist to predict if the work-related well-being model can be applied in different sectors. Such a study has not yet been undertaken in South Africa. The sectors that will be compared include employees from the following work environments: an educational institution, an university (including an University of Technology), correctional services and the insurance industry.

Based on the discussion above, the following research questions can be inferred:

- Does a relationship exist between work-related well-being dimensions for different sectors?
- What are the levels of work-related well-being as experienced in the different sectors?

METHOD

Research design

A cross-sectional survey research design was implemented with stratified random samples. A Cross-sectional survey design is a research design through which subjects are assessed at a single time in their lives (Shaughnessy & Zechmeister, 2006). This type of study can be completed rapidly and a large number of participants can be assessed with little cost and effort. With a cross-sectional study, both outcomes and exposures are assessed on the individual level, but at a moment in time, without either forward or backward timing.

Participants

A random probability sample ($N = 4006$) was taken from Tertiary and High School institutions that include academic and administrative personnel, the Insurance industry and Correctional services. The Tertiary institutions also represent a sample from an University of Technology. The characteristics of the participants are displayed in Table 1.

TABLE 1: Characteristics of the Participants ($N = 4006$)

Item	Category	Academic staff	Correctional Services	Insurance Industry	Support staff	Teachers	University of Technology	Average Percentage
Qualifications	Grade 12 and lower	2.69%	79.60%	63.46%	43.0%	33.16%	26.20%	41.35%
	Grade 12 + 3 year qualification	2.86%	10.87%	32.79%	19.0%	45.68%	21.60%	22.13%
	Grade 12 + 4 year qualification	11.26%	8.30%	2.61%	24.0%	18.51%	29.40%	15.68%
	Grade 12 + Master's Degree	34.96%	1.12%	1.14%	11.0%	2.64%	18.20%	11.51%
	Grade 12 + Doctoral Degree	48.24%	0.11%	0.00%	4.0%	0.00%	4.60%	9.49%
Gender	Male	49.92%	72.09%	42.74%	30.0%	30.52%	36.70%	43.66%
	Female	50.08%	27.91%	57.26%	70.0%	69.48%	63.30%	56.34%

Table 1 shows that the majority of the sample consisted of females (56.34%) and only Correctional Services had more males than females in the sample with 72.09% males and only 27.91% females. Academic staff has the highest percentage of doctoral degrees at 48.24%, with master degrees second highest at 34.96%. In the total population participants with Doctoral degrees only represent 9.49% and participants with Master degrees only 11.51%. Most of Correctional Services (79.6%), the insurance industry (63.46%) and support staff (43%) in the sample had a grade 12 or lower qualifications. In the total population Grade 12 and lower qualifications represent 41.35%. Teachers had mostly a 3 year post grade 12 qualification (45.68%) in the sample. The University of Technology has the most grade 12 plus 4 year qualifications (29.4%) in the sample.

Measuring instruments

The following four measuring instruments were applied in this study, as well as a biographical questionnaire employed, to measure the characteristics of the participants.

The *Maslach Burnout Inventory – General Survey* (MBI-GS) (Schaufeli, Leiter, Maslach & Jackson, 1996) was used in this study to measure burnout. The following subscales of the MBI-GS were included: exhaustion (five items; i.e., “I feel used up at the end of the

workday”), and cynicism (seven items; i.e., “I have become less enthusiastic about my work”). All items are scored on a seven-point frequency scale, ranging from 0 (*never*) to 6 (*daily*). In an international study conducted in America, Asia and Europe by Poshosyan, Aiken and Sloan (2009) it was found that the internal consistency of the MBI is 0.80 to 0.93 for exhaustion, and 0.71 to 0.82 for cynicism. Coetzer and Rothmann (2007) found an internal consistency of 0.86 for exhaustion and 0.79 for cynicism.

The *Utrecht Work Engagement Scale* (UWES), developed by Schaufeli, et al. (2002), was used to measure work engagement. Only two of the subscales of the UWES were employed for purposes of this study, namely Vigour (three items; i.e., “I am bursting with energy in my work”) and Dedication (five items; i.e., “I find my work full of meaning and purpose”). Lekutle and Nel (2012) found alpha coefficients of 0.90 for both Vigour and Dedication within the cement producing sector in South Africa.

The *Job Characteristics Scale* (JCS), developed by Barkhuizen (2005), was used to measure job demands and job resources of employees. The JCS consists of 41 items. The questions are rated on a four-point scale ranging from 1 (*never*) to 4 (*always*). The dimensions of the JCS include the following: pace and amount of work, mental load, emotional load, work variety, opportunities to learn, work independence, relationships with colleagues, relationship with immediate supervisor, ambiguities of work, information, communications, participation, contact possibilities, remuneration and career possibilities. For the purpose of this article, organisational support, growth opportunities and advancement were used for job resources while demands and insecurity were used for job demands. Barkhuizen and Rothmann (2008) applied the JCS for a sample of academics in higher education Sectors with the following internal consistencies, namely overload ($\alpha = 0.75$), growth and advancement ($\alpha = 0.85$), and structure and relations ($\alpha = 0.92$). Coetzee and Rothmann (2005) also found alpha coefficients for the following for the dimensions; overload ($\alpha = 0.76$), and control ($\alpha = 0.81$).

The *Organisational Stress Screening Tool* (ASSET) was also used in this study. The ASSET was developed by Cartwright and Cooper (2002) as an initial screening tool to help organisations assess the risk of occupational stress amongst their workforce. This tool provides important information on current levels of organisational commitment, physical health, and psychological well-being, which are all relevant for this study. For organisational

commitment the following elements were measured: affective and behavioural attitudes towards one's organisation: nine items scored from 1 (*strongly disagree*) to 6 (*agree*). The General Health Questionnaire which forms part of the ASSET (Cooper & Cartwright, 1994) was used to measure physical and psychological health. The questions were rated on a four-point scale ranging from 1 (*never*) to 4 (*often*). It consists of 19 items arranged on two subscales. These are physical ill-health (response example, "lack of appetite or over-eating") and psychological unwell-being (response example, "panic or anxiety attacks"). Internal consistency was found to be sufficient. Coetzee and Rothmann (2005) found an internal consistency of 0.90 for Commitment, 0.80 for Physical health, and 0.90 for Psychological health. Cartwright and Cooper (2002) found in an international validation study that reliabilities range from 0.60 to 0.91 for all dimensions.

A biographical questionnaire was designed and used to gather information on some aspects of the population in the different sectors, e.g. gender, education and work context.

Procedure

The different sectors were approached and permission was asked to conduct this study. A formal letter was drawn up stating the research objectives of this study, its rationale and the intended role of participants. Informed consent letters were given to all participants where all relevant information on to this study was included and stating that the study is voluntary, anonymous and confidential. After informed consent was obtained, the booklet containing all the instruments, as well as the biographical questionnaire, were sent by mail to selected participants. At the beginning of the booklet a cover letter once again stated the purpose of the study and reiterated that the study is voluntary and confidential. Participants were asked to return the completed booklet in a sealed envelope to the research team.

Statistical analysis

The statistical analysis was carried out by employing two statistical programs, namely the SPSS Program version 20 (IBM SPSS, 2011) and the Amos 7 (Arbuckle, 2007). In order to determine the validity of the instruments, a confirmatory factor analysis (CFA) was carried out. CFA is typically employed if the instruments indicated successive internal consistency,

adequate content and construct validity in a previous research (Suhr, 2009). Descriptive statistics (mean and standard deviation) and Cronbach alpha coefficients (α) were used to explore the data and to determine the internal consistency of the instruments. A coefficient of 0.70 indicates that the items are regarded as internally consistent (Nunnally & Bernstein, 1994). Product-moment correlation coefficients were used to specify the relationship between the variables. In terms of significance, the 95% confidence level ($p < 0.05$) was used. Effect sizes (Steyn, 1999) were applied to decide on the practical significance of the findings. A cut-off point of 0.30 (medium effect, Cohen, 1988) and 0.50 (large effect, Cohen, 1988) was set for the practical significance of correlation coefficients. In addition, descriptive statistics (mean scores) were determined for each dimension and for each sector to establish which sector experience a particular dimension the most and the least.

RESULTS

The results section provides an overview of the analysis that was carried out by applying the SPSS program and is reported in the following order:

- **Table 2** report on the descriptive statistics, alpha coefficients and product-moment correlations between the dimensions
- **Table 3** indicates the descriptive statistics (mean and standard deviation) of the different sectors.

Table 2*Mean Scores, Cronbach Alpha Coefficients of and Product-moment correlations between the constructs*

Scale	Mean	α	1	2	3	4	5	6	7	8	9	10	11	12
1. Exhaustion	13.65	0.83	*	*	*	*	*	*	*	*	*	*	*	*
2. Cynicism	8.22	0.70	0.30* ⁺⁺	*	*	*	*	*	*	*	*	*	*	*
3. Vigour	14.43	0.71	0.02	-0.24*	*	*	*	*	*	*	*	*	*	*
4. Dedication	22.43	0.85	-0.31* ⁺	-0.51* ⁺⁺	0.60* ⁺⁺	*	*	*	*	*	*	*	*	*
5. Organisational support	60.78	0.91	-0.31* ⁺	-0.37* ⁺	0.30*	0.45* ⁺	*	*	*	*	*	*	*	*
6. Growth opportunities	22.53	0.85	-0.24*	-0.42* ⁺	0.37* ⁺	0.60* ⁺⁺	0.59* ⁺⁺	*	*	*	*	*	*	*
7. Demands	22.36	0.76	0.41* ⁺	0.17*	0.10*	0.03	-0.13*	0.13*	*	*	*	*	*	*
8. Advancement	10.10	0.75	-0.23*	-0.23*	0.14*	0.27*	0.38* ⁺	0.41* ⁺	-0.11*	*	*	*	*	*
9. Insecurity	7.98	0.89	0.01	0.10*	0.01	0.04*	-0.04*	-0.04*	0.03*	-0.08*	*	*	*	*
10. Psychological ill health	22.46	0.89	0.57* ⁺⁺	0.43* ⁺	-0.24*	-0.39* ⁺	-0.37* ⁺	-0.27*	0.28*	-0.19*	0.03*	*	*	*
11. Physical ill health	16.28	0.82	0.45* ⁺	0.31* ⁺	-0.14*	-0.25	-0.27*	-0.18*	0.24*	-0.19*	0.14*	0.68* ⁺⁺	*	*
12. Affective commitment	21.02	0.83	-0.35* ⁺	-0.42* ⁺	0.36* ⁺	0.54* ⁺⁺	0.47*	0.43*	-0.15*	0.32*	-0.02	-0.36*	-0.23*	*
13. Behavioural commitment	17.68	0.71	-0.2*	-0.34* ⁺	0.34* ⁺	0.47* ⁺	0.37*	0.35*	-0.07*	0.25*	-0.06*	-0.28*	-0.18*	0.74* ⁺⁺

* $p < 0.05$ statistically significant+ $d > 0.30$ practically significant (medium effect)++ $d > 0.50$ practically significant (large effect)

According to **Table 2**, all scales show internal consistency (Nunnally & Bernstein, 1996), since the Cronbach alpha coefficients are higher than 0.70. When reviewing the relationships between the dimensions, the practical significant relationships are reported. Exhaustion is positive practically significantly correlated with Cynicism (medium effect), Demands (medium effect), Psychological ill-health (large effect) and Physical ill-health (medium effect). Furthermore, Exhaustion is negative practically correlated with Dedication (medium effect), Organisational support (medium effect) and Affective commitment (medium effect). Cynicism is positive practically significantly correlated to Psychological ill-health and Physical ill-health (both medium effect), while negative practically significant correlated with Dedication (large effect), Organisational support (medium effect), Growth opportunities (medium effect), Affective commitment (medium effect) and Behavioural commitment (medium effect).

Furthermore, it became clear that Vigour is positive practically significantly correlated with Dedication (large effect), Organisational support (medium effect), Growth opportunities (medium effect), Affective commitment (medium effect) and Behavioural commitment (medium effect). Dedication is positive practically significantly correlated with Organisational support (medium effect), Growth opportunities (large effect), Affective commitment (large effect) and Behavioural commitment (medium effect), and negatively correlated with Psychological ill-health (medium effect).

It also was found that Organisational support is positive practically significantly correlated with Growth opportunities (large effect), Advancement (medium effect), Affective commitment (medium effect) and Behavioural commitment (medium effect), and negatively correlated with Psychological ill-health (medium effect). Growth opportunities are positive practically significantly correlated to Advancement (medium effect), Affective commitment (medium effect) and Behavioural commitment (medium effect). Advancement is positive practically significantly correlated with Affective commitment (medium effect). Psychological ill-health is positive practically significantly correlated with Physical ill-health (large effect), while Affective commitment is positive practically significantly correlated with Behavioural commitment (large effect). Insecurity is the only dimension that did not correlate with any of the other dimensions mentioned.

Table 3 reports on the experience of the dimensions across the different sectors.

Table 3*Descriptive statistics between the different sectors*

	Group	Mean	Std. Dev	Differences		Group	Mean	Std. Dev	Differences
Exhaustion	A staff	14.27	7.16	2	Organisation support	A staff	61.37	11.02	2
	Correct	12.17	7.99	1,3,5		Correct	58.45	12.45	1,3,4,5
	Insure	15.11	6.77	2,4,5,6		Insure	62.71	10.28	2,6
	Non acad	12.92	7.57	3		Non acad	60.61	11.45	2
	Teacher	14.04	7.31	2,3		Teacher	62.27	10.16	2,6
	Technol	13.38	7.75	3		Technol	59.29	12.51	3,5
Cynicism	As taff	7.63	5.46	2,3,5	Growth opportunities	A staff	24.42	4.52	2,3,4,6
	Correct	8.82	5.57	1,4		Correct	21.16	5.49	1,5,6
	Insure	9.16	5.56	1,4,6		Insure	21.30	4.64	1,5
	Nonacad	7.16	5.32	2,3,5		Nonacad	21.86	5.28	1,5
	Teacher	8.49	5.28	1,4		Teacher	24.29	4.75	2,3,4,6
	Technol	8.03	5.46	3		Technol	22.11	5.34	1,2,5
Vigour	A staff	14.68	3.17	2,5,6	Demands	A staff	23.87	3.56	2,3,4,5,6
	Correct	13.76	4.40	1,5		Correct	21.68	4.52	1,3,5,6
	Insure	14.30	3.55	5		Insure	20.75	3.76	1,2,4,5,6
	Nonacad	14.33	3.84	5		Nonacad	21.95	4.35	1,3,5
	Teacher	15.88	3.63	1,2,3,4,5,6		Teacher	23.20	4.07	1,2,3,4
	Technol	13.66	3.82	1,5		Technol	22.69	4.04	1,2,3
Dedication	A staff	23.29	5.29	3,4,5,6	Advancement	A staff	10.46	3.01	5
	Correct	22.74	7.18	3,5		Correct	10.03	3.86	
	Insure	20.69	6.65	1,2,3,4,5		Insure	10.51	3.34	4,5
	Nonacad	22.05	6.92	1,3,5		Nonacad	9.84	3.09	3
	Teacher	24.27	5.76	1,2,3,6		Teacher	9.70	3.22	3
	Technol	21.54	7.13	1,5		Technol	10.09	3.02	
Affective commitment	A staff	20.99	5.17	1,5,6	Insecurity	A staff	6.33	3.11	2,3,4,5,6
	Correct	21.96	5.46	1,3,6		Correct	8.85	2.60	1,3,4,5,6
	Insure	21.12	4.52	2,5,6		Insure	7.50	2.82	1,2,5,6
	Nonacad	21.10	5.29	5,6		Nonacad	7.63	3.16	1,2,5
	Teacher	22.22	4.97	1,3,4,6		Teacher	9.44	2.73	1,2,3,4,6
	Technol	18.73	5.97	1,2,3,4,5		Technol	8.15	2.92	1,2,3,5
Behavioural commitment	A staff	18.05	3.93	6	Psychological ill health	A staff	22.82	6.65	5
	Correct	18.14	3.86	5,6		Correct	22.34	7.60	5
	Insure	18.14	3.50	5,6		Insure	22.89	6.67	5
	Nonacad	17.93	3.85	6		Nonacad	22.26	6.94	
	Teacher	17.54	3.69	2,3,6		Teacher	21.19	6.92	1,2,3,6
	Technol	16.28	4.75	1,2,3,4,5		Technol	23.25	6.95	5
					Physical ill health	A staff	15.34	4.85	2,3,5,6
						Correct	16.44	5.01	1
						Insure	16.53	4.80	1

Group	Mean	Std. Dev	Differences	Group	Mean	Std. Dev	Differences
				Nonacad	15.66	5.07	6
				Teacher	16.49	4.90	1
				Technol	17.23	5.10	1,4

* Institution and Abbreviation used as follows:

1. Academic Staff – A staff
2. Correctional services – Correct
3. Insurance Sector – Insure
4. Non-Academic Staff – Nonacad
5. Teachers – Teacher
6. An University of Technology - Technol

The output above is a statistical representation of significant differences in means between different sectors. The greater the amount of significant differences in an instrument, the more heterogeneous the responses of the respondents becomes. This should be kept in mind when making conclusions about the construct from which the final model is constructed.

According to **Table 3** the various sectors did not show any major differences in their scores when answering the questionnaires. Nevertheless, some differences (although small) are reported. For instance, the insurance sector seems to have the highest Burnout levels (Exhaustion and Cynicism) although they experience the highest Organisation support and Advancement of all the sectors. Additionally, the insurance sector and Correctional Services seem to experience the highest levels of Behavioural commitment. Academic staff indicate in their work the largest Growth opportunities of all the sectors, but also the largest Demands. Teachers showed the highest Engagement levels (Vigour and Dedication) and Affective commitment in their job and teaching experience. However, Teachers seem to experience the most job insecurity in their work. An University of Technology shows the highest Psychological and Physical ill health of all the sectors.

When inspecting the lowest levels, it seems that Correctional Services experience the least Exhaustion, Organisational support and Growth opportunities in comparison with the other sectors. Non-Academic Staff experience the lowest levels of Cynicism. An University of Technology reported the lowest levels on Vigour, Affective commitment and Behavioural commitment. Within the insurance sector, it is reported that the participants experience the least Dedication, Demands and Insecurity. It seems in comparison that Teachers experience the least Advancement in their work and are the least prone for Psychological ill-health. Academic Staff is the least prone to experience Physical ill-health in comparison with the other sectors.

DISCUSSION

The general aim of the study was to determine the incidence of dimensions regarding work-related well-being in selected sectors across South Africa. The main finding of the study indicates that the dimensions utilised in this study have predictability value in different sectors, since invariance for the different sectors has been established.

The first research question of the study was to ascertain whether a relationship exists between the dimensions of work-related well-being, which are measured in this research. The results confirm that the work-related well-being of members in different sectors within in South African society is mostly affected by an environment of high job demands and inadequate resources. The employees show higher levels of exhaustion, which indicate that job demands may contribute to burnout. The lack of support from the organisation and inadequate growth opportunities may also lead to such forms of extensive exhaustion. These findings are confirmed by Rothmann (2003), who found that high job demands and a lack of resources (organisational support) are strongly related to exhaustion.

Furthermore, the results give the impression that lower levels of dedication may be due to higher levels of cynicism. According to Schaufeli and Buunk (2003), the depletion of emotional resources can be considered the ultimate price that has to be paid for the individual's active attempts to regain resources or to prevent the loss of these resources. The results further indicate that the employees across all sectors felt more dedicated in their jobs when the organisation provided support and growth opportunities.

In this study, exhaustion impacted on the psychological and physical ill-health of the employees in all the sectors, which corresponds with the research of Faragher et al. (2004). Previous studies indicated that prolonged exposure to stress can lead to long-term health issues and physical problems (Faragher et al., 2004, Maslach & Leiter, 1997). These findings are also in line with the results of Jackson et al. (2006), who found that the dimension exhaustion mediates the relationship between job demands and ill-health. It seems that psychological ill-health is significantly correlated with physical ill-health in the present results. This confirms outcomes from previous studies indicating that chronic stress can lead to symptoms of physical ill-health (Maslach & Leiter, 1997).

From the results it becomes clear that in instances where the sectors provided more support and advancement opportunities to employees, and those employees experienced the organisation as committed to them, they would be less prone to psychological ill-health. This finding is supported by the study of Siu (2002) who identified commitment as a significant moderator of stress and links it to work engagement and physical and psychological outcomes amongst employees. Employees attach direction and meaning to their work when the organisation are committed to them and as a result protects employees from the negative effect of work stress. Organisational commitment provides individuals with stability and a feeling of ‘belonging’.

The results of this study are in accordance with the two psychological processes described in the COBE model (Schaufeli & Bakker, 2004). In the present study the results indicate that employees who are experiencing high levels of workload need the energy and mental effort to maintain task performance. It becomes evident that using extra energy leads to a condition of acute fatigue. In the second psychological (motivational-driven) process, the availability of job resources causes employees to experience engagement when they feel that the organisation is committed to them (Demerouti et al., 2001).

The second research question of the study was to determine the levels of work-related well-being as experienced by the different sectors under investigation. Coetzer and Rothmann (2006), in their study of the insurance industry in South Africa, found that employees experienced ill-health due to overload. According to their sample job insecurity and work stress were higher in comparison with other South African sectors. A similar finding is articulated in the present study, in which a difference was noted in the higher burnout levels (exhaustion and cynicism) in the insurance industry, as compared to the rest of the sectors. An interesting fact can be deduced from the comparison of the insurance sector with the education sector. According to this finding teachers are the least prone to suffer *psychological* ill-health, while academic staff is the least prone to experience *physical* ill-health – in comparison with the other sectors. In Tytherleigh et al. (2005), a similar finding is reported where higher education staff experienced lower levels of physical ill health.

The results further revealed that the academic staff experienced the largest growth opportunities of all the sectors, yet also the more strenuous demands in their work. Barkhuizen and Rothmann (2008) found a similar result in their study, which indicated that

academic staff experience high levels of job demands, especially more so the senior staff. In their study they also found high levels of psychological and physical ill-health, which is also confirmed by finding of the present study amongst the academic personnel at an University of Technology.

The results of this article mostly reveal that demands in various sectors differ, seeing that the type of organisation determines aspects such as work load, role overload and environmental conditions. Academic staff, for instance, typically has a lot of medium-term deadlines to meet – modules to complete and exam preparations to finalise, et cetera. This is not typically the case of a Warden in Correctional Services who perform daily activities on a shift base (Garland, 2002). Growth opportunities also differ between sectors, as skill variety, task significance, learning and development, as well as autonomy typically are influenced by the culture and type of organisation. In the category Academic staff autonomy is expected of employees to perform their jobs. Such autonomy might not be expected of employees in Correctional Services where rank influences the level of input (Garland, 2002). Teachers need to be creative in their teaching-learning methods and tend to show more vigour than for example an insurance agent. Insecurity also differs between sectors, depending on the life-cycle of the organisation concerned and profit margin needed to be competitive in the market. Teachers are dependent for their continuing employment on student numbers and school funds. This is not the case for Correctional Services where increasing crime statistics make the need for such services essential.

In conclusion, the results of this study established the fact that the dimensions depicting work-related well-being is invariant for the different sectors and, therefore, these dimensions have predictability value in different sectors.

Limitations and recommendations

The sample sizes in the diverse sectors that were researched differed, which could have influenced the outcome of the study. Secondly, the research design was a cross-sectional survey design, which makes it difficult to prove causal relationships. A longitudinal study would have been more applicable where different measurements in a single organisation are done at chosen intervals to determine how the factors are influenced over time. This study confirms the view that interventions to improve the well-being of employees are essential to

combat exhaustion. Typical interventions might include proper job design, and ensuring the availability of enough resources in the form of manpower through adequate workforce planning. In addition, focused training needs to be provided and development stimulated to ensure a competent workforce. Sectors should focus on developing wellness programs to establish a balanced work life and train employees who are skilled in personal mastery to manage the polarities of work and life demands. Holistically it will help to ensure that sectors have motivated employees by guiding against an overload of job demands and to provide adequate job resources, which would help employees to maintain a healthy balance between the work environment and life outside of work.

The wellness of employees is indeed an important issue for organisations to survive within the competitive environment in which they have to function (Kay & Jordan-Evans, 2005). This article confirmed the findings of Demerouti, et al. (2001), who have established that, when demands are kept manageable and sufficient resources are made available, it results in a positive impact that manifests in employee engagement and organisational commitment, and thus diminishing the possibility of burnout in the work sectors.

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CHAPTER 3

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

3.1 CONCLUSIONS

The general objective of the study was to assess the invariance of work-related well-being in selected sectors in South Africa. The first research question dealt with the relationship between the well-being dimensions, while the second question was to determine the different levels of well-being among various sectors in South Africa. The limitations and recommendations for future research and for the various sectors are also discussed.

The first question of the research was to determine the relationship between job characteristics, burnout, engagement, health and commitment in various sectors in South Africa.

The results indicated that the work-related demands are different in the various sectors. Academic staff has typically a huge amount of medium-term deadlines to meet, for example 6-monthly semesters to complete and exam preparations, whereas a Warden in Correctional Services performs daily activities on a shift base in a government-owned institution that only needs to focus on short-term activities for that specific shift. Growth opportunities also differ from one sector to another as skill variety, task significance, learning and development and autonomy are influenced by the culture and type of organisation. Autonomy is expected of Academic Staff so as to perform in their jobs, but it is less expected of employees in Correctional Services where rank determines the level of autonomy. Vigour has also been found to differ in the different sectors. It may be that the type of job and culture within the organisation has direct influences on the amount of energy an employee is willing to exert on his/her job. Teachers need to be creative to get a message across to students that tend to and may show more vigour than an insurance agent that needs to sell life insurance and conduct

repetitive work on a daily basis and to adhere to strict prescriptions and contracts (Scott & Sidney, 1985). Insecurity also differs from organisation to organisation depending on the life cycle of the organisation and its profit margin to be competitive in the market and whether it is owned by the government or a private entity. Teachers are dependent on student numbers and student funds as well as student results to ensure future employment. The same is not the case for correctional services where crime statistics are high and the need for such services is becoming more essential, and it is funded by tax payers (Schonteich & Louw, 2011).

The study further substantiates that an overload of job demands where insufficient job resources are available will cause exhaustion and cynicism which can ultimately cause ill health, both on a psychological and physical level.

The results that were found in this study are supported in the COBE model (Schaufeli & Bakker, 2004) in that work-related well-being of members in different sectors within South Africa is mostly affected by an environment of high job demands and inadequate resources. Employees show higher levels of exhaustion which indicates that high job demands contribute to aspects of burnout. Lack of organisational support such as inadequate growth opportunities lead to exhaustion. Rothmann (2003) found that high job demands and a lack of resources are strongly related to exhaustion.

The results indicate that lower levels of dedication may be due to higher levels of cynicism. According to Schaufeli and Buunk (2003), the depletion of emotional resources can be considered the ultimate price to be paid for the individual's active attempts to regain resources or to prevent the loss of these resources. Employees across all sectors felt more dedicated in their jobs when the organisation provided support and growth opportunities. Exhaustion impacted on the psychological and physical ill-health of the employees in all the sectors. Research of Faragher, Cooper and Cartwright (2004) found similar results. Prolonged exposure to stress can lead to long-term health issues and physical health problems (Faragher et al., 2004; Maslach & Leiter, 1997). These findings are also in line with the results of Jackson et al. (2006), who found that the dimension exhaustion mediates the relationship between job demands and ill-health. It seems that psychological ill-health is significantly correlated with physical ill-health in the present results. This confirms outcomes from previous studies indicating that chronic stress can lead to symptoms of physical ill-health (Maslach & Leiter, 1997).

Instances where the sectors provided more support and advancement opportunities to employees, those employees experienced the organisation as more committed. In these cases employees would be less prone to psychological ill-health. This finding is supported by the study of Siu (2002) who identified commitment as a significant moderator of stress and links it to work engagement and physical and psychological outcomes amongst employees.

Employees find meaning in their work when the organisations are committed to them and as a result protect their employees from the negative effect of work stress. Organisational commitment provides individuals with stability and a feeling of 'belonging'.

The results of this study are in accordance with the two psychological processes described in the COBE model (Schaufeli & Bakker, 2004). In the present study the results indicate that employees who experienced high levels of workload needed more energy and mental effort to maintain task performance. It is evident that using extra energy leads to acute fatigue. In the second psychological (motivation-driven) process, the availability of job resources leads employees to experience engagement when they feel the organisation is committed to them (Demerouti et al., 2001).

The second research question of the study was to determine the levels of work-related well-being as experienced by the different sectors under investigation.

Coetzer and Rothmann (2006), in their study of the insurance industry in South Africa, found that employees experienced ill-health due to overload. According to their sample, job insecurity and work stress were higher compared to other South African sectors. A similar finding is made in the present study where higher burnout levels (exhaustion and cynicism) were found in the insurance industry, compared to the rest of the sectors. An interesting fact can be deduced from the comparison of the insurance sector with the education sector. According to this finding, teachers are the least prone to suffer *psychological* ill-health, while academic staff is the least prone to experience *physical* ill-health –compared to the other sectors. In Tytherleigh et al. (2005) a similar finding is reported where higher education staff experienced lower levels of physical ill-health.

The results further revealed that the academic staff experienced the largest growth opportunities of all the sectors, yet also the more strenuous demands in their work.

Barkhuizen and Rothmann (2008) found a similar result in their study, which indicated that academic staff experience high levels of job demands, especially more so the senior staff. In their study they also found high levels of psychological and physical ill-health, which is also confirmed in the present study among the academic personnel at an University of Technology.

The results of this study reveal that demands in various sectors differ, seeing that the type of organisation determines aspects such as work load, role overload and work conditions. Academic staff, for instance, typically has longer-term objectives such as semester modules to complete and exam preparations to finalise, et cetera. This is not typically the case of a Warden in Correctional Services who perform daily activities on a shift base and only focus on the activities for that specific shift (Garland, 2002). Growth opportunities also differ between sectors, as skill variety, task significance, learning and development, as well as autonomy typically are influenced by the culture and type of organisation. In the category Academic staff autonomy is expected of employees to perform their jobs. Such autonomy might not be expected of employees in Correctional Services where rank influences the level of input and execution (Garland, 2002). Teachers need to be creative in their teaching-learning methods and tend to show more vigour than for example an insurance agent that needs to apply strict procedures and contract requirements. Insecurity also differs between sectors, depending on the life-cycle of the organisation concerned and profit margin needed to be competitive in the market. Teachers are dependent on student numbers, pass rates and student funds for their continuing employment. This is not the case for Correctional Services where increasing crime statistics make the need for such services essential and tax payers are paying for the government service.

In conclusion, the results of this study established the fact that the wellbeing of employees is undeniably an important issue for organisations to survive within the competitive environment in which they have to function (Kay & Jordan-Evans, 2005).

3.2 LIMITATIONS

The Biographical information is limiting and more biographical information would have been more descriptive of the population used. This makes it difficult to generalise the findings to all sectors of work within South Africa. For instance, a Senior Manager will have much more

responsibilities than an Administration Clerk. These differences must be taken into consideration when future research is done on Job demands and Job resources.

The sample sizes in the diverse sectors researched differed, which could have influenced the outcome of the study. Comparing sectors became more difficult as sample size were different for the different sectors. Secondly, the research design was a cross-sectional survey design, which makes it difficult to prove causal relationships. A longitudinal study would have been more applicable where different measurements in a single organisation are done at chosen intervals to determine how the factors are influenced over time.

3.3 RECOMMENDATIONS

3.3.1 Recommendations for future research

It will be beneficial for future research to use a longitudinal design to determine the long-term effects of burnout and engagement. A longitudinal design will make it possible to better determine the relationships between concepts and will also be possible to determine causal effects. Using Manova will assist in investigate more intensively the differences of the constructs within different sectors. It will also be possible to differentiate between age groups and different race groups on how burnout and engagement are experienced by them.

Future studies should also include a more diverse biographical information on the participants to be able to compare information such as the seniority within the organisation and different races and different age groups within the model.

3.3.2 Recommendations for the sectors

The JD-R model has many applications in the modern organisation. Symptoms can pro-actively be identified to prevent burnout and ill-health to develop in individuals. Typical interventions might include: proper job design; ensuring sufficient resources in the form of manpower availability through adequate workforce planning and skills development; providing focused training and development to ensure a competent workforce; providing bursary schemes for employees to obtain further qualifications can be considered; increasing work-life balance by introducing interventions such as gym facilities for employees to exercise frequently and have a healthy body and mind; and developing wellness programs to

ensure a balanced work life and ensure employees are skilled in personal mastery to manage the polarities of work and life demands. Holistically these interventions will ensure that sectors have motivated employees by ensuring that an overload of job demands is not created and that adequate job resources are made available to maintain a healthy balance. Further recommendations could be: implementing wellness initiatives such as screening of employees for potential stress-related illnesses and providing counselling and developmental programs to be able to deal with systems of burnout and preventing burnout in the long run; introducing mentoring programmes to assist employees to obtain techniques to cope with job demands; encouraging the correct behaviour through incentive schemes that drive employees towards engagement and commitment towards the organisation they are employed with; and increasing the focus specifically on Job resources through interventions such as management development programs and job design to ensure self-fulfilled employees.

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