

**WORK ENGAGEMENT OF ACADEMIC STAFF IN HIGHER EDUCATION  
INSTITUTIONS IN SOUTH AFRICA**

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Mini-dissertation submitted in partial fulfilment of the requirements for the degree Magister  
Artium in Industrial Psychology at the North-West University.

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2005

Potchefstroom

## COMMENTS

The reader is reminded of the following:

- 1 The references as well as the editorial style as prescribed by the *Publication Manual* (5<sup>th</sup> edition) of the American Psychological Association (APA) were followed in this mini-dissertation. This practice is in line with the policy of the Programme in Industrial Psychology of the North-West University to use APA style in all scientific documents as from January 1999.
- 2 The mini-dissertation is submitted in the form of a research article. The name of the study leader appears on the manuscript as it was submitted for publication.

## **DEDICATION**

During the writing of this mini-dissertation my mother became very ill. We nearly lost her three times. By the Grace of God and her belief in her miracle she survived. Mommy you are an inspiration to me. Thank you for your unconditional love, tremendous support, advice and friendship. I cannot even begin to imagine life without you. It gives me great pleasure to dedicate this research project to you.

"Jesus said unto him, if thou canst believe, all things are possible to him that believeth".....

Mark 9:23

## ACKNOWLEDGEMENTS

I thank God in the name of Jesus Christ for giving me guidance when I had nowhere to go as well as the ability to write this mini-dissertation. I would also like to give a special word of appreciation to the following people:

- My father, Daantjie for the financial support, patience, and understanding of the value of education. I love you.
- Hansie and Daantjie, my two brothers, for your moral support. Remember a land that has only sunshine becomes a desert.
- Nicolene Barkhuizen. I have never met anyone who is as willing to help and support others as you are. I am privileged to be your friend.
- Vicky for the Wimpy coffees, comfort and friendship that will last for eternity.
- Professor Ian Rothmann I truly appreciate the time spent in your office. Your advice, especially on the statistics, made this mini-dissertation possible.
- The participants for your time and effort

The financial assistance of the National Research Foundation (NRF) towards this research is hereby acknowledged. Opinions expressed and conclusions arrived at are those of the author and not necessarily to be attributed to the National Research Foundation.

## TABLE OF CONTENTS

	<b>Page</b>
Comments	i
Dedication	ii
Acknowledgements	iii
List of tables	v
Abstract	vii
Opsomming	ix
 <b>CHAPTER 1: INTRODUCTION</b>	
1.1 Problem statement	1
1.2 Research objectives	5
1.2.1 General objective	5
1.2.2 Specific objectives	5
1.3 Research method	5
1.3.1 Literature review	5
1.3.2 Empirical study	6
1.3.2.1 Research design	6
1.3.2.2 Participants	6
1.3.2.3 Measuring battery	6
1.3.2.4 Statistical analysis	7
1.4 Division of chapters	8
1.5 Chapter summary	8
References	9
 <b>CHAPTER 2: RESEARCH ARTICLE</b>	
 <b>CHAPTER 3: CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS</b>	
3.1 Conclusions	40
3.2 Limitations	43
3.3 Recommendations	43
3.3.1 Recommendations for the organisation	44
3.3.2 Recommendations for future research	44
References	45

## LIST OF TABLES

<b>Table</b>	<b>Description</b>	<b>Page</b>
Table 1	Characteristics of the Participants	22
Table 2	Item Analyses of the 12-item UWES	25
Table 3	Item Analyses of the 10-item UWES	26
Table 4	Factor Loadings, Communalities ( $h^2$ ), Percentage Variance and Covariance for Principal Factor Extraction and Varimax Rotation on the JDRS	27
Table 5	Descriptive Statistics, Alpha Coefficients and Correlations	29
Table 6	Regression Analysis with Engagement as Dependent Variable	30

## SUMMARY

**Title:** Work engagement of academic staff in South African higher institutions

**Key terms:** Work engagement, job demands, job resources, academic staff, universities

Academics in South Africa are being confronted with a work environment accumulated with job demands, often without corresponding increases in job resources. Job demands and job resources might affect the levels of work engagement of academics in higher education institutions. Therefore, research is needed regarding work engagement of academics and the relationship thereof with job demands and resources. The objectives of this study were to investigate whether the UWES is a reliable and valid measure of work engagement for academic staff in universities in South Africa and to assess the relationships between work engagement, job demands and job resources.

A cross-sectional survey design was used. The study population ( $N = 471$ ) consisted of academic staff of the following universities: North-West University, University of Port Elizabeth and University of the Orange Free State. The UWES, Job-Demands-Resources Questionnaire and a biographical questionnaire was administered. The reliability and validity of the measuring instruments were assessed with the use of Cronbach alpha coefficients, and exploratory factor analysis. Descriptive statistics (e.g. means and standard deviations) were used to analyse the data. Pearson correlations and multiple regression analyses were used to assess the relationships between job demands, job resources and work engagement.

Principal component analysis resulted in a one-factor model of work engagement, consisting of Vigour/Engagement. This factor showed an acceptable alpha coefficient. Regarding the Job Demands-Resources Scale, five reliable factors were extracted, namely Organisational Support, Growth Opportunities, Communion, Overload and Job Insecurity. The correlation coefficients indicated that engagement is positively related to growth opportunities, organisational support and communion. A regression analysis with engagement as dependent variable indicated that organisational support and growth opportunities in the job were the best predictors of work engagement. Job resources predicted 46% of the variance in work engagement, but only two job resources, namely organisational support and growth opportunities showed statistically significant regression coefficients.

Recommendations for future research are made.



## OPSOMMING

**Titel:** Werkbegeestering van akademiese personeel by Suid-Afrikaanse hoër opvoedkundige instellings.

**Sleuteltermes:** Werkbegeestering, werkeise, werkhulpbronne, akademiese personeel, universiteite

Akademici in Suid-Afrika word gekonfronteer met 'n werksomgewing met hoë werkeise, dikwels sonder die ooreenkomstige toename in werkhulpbronne. Poseise en poshulpbronne kan moontlik die vlakke van werksbegeestering van akademici in hoër opvoedkundige instellings beïnvloed. Navorsing ten opsigte van die werksbegeestering van akademici en die verwantskap daarvan met poseise en hulpbronne is dus noodsaaklik. Die doel van hierdie studie was om te bepaal of die Utrecht-werkbegeesteringskaal (UWES) 'n betroubare en geldige meetinstrument vir die meting van werkbegeestering van akademiese personeel in universiteite in Suid Afrika is en om die verbande tussen werkbegeestering, werkeise en werkhulpbronne te bepaal.

'n Dwarssnee opname-ontwerp is gebruik. Die studiepopulasie ( $N = 471$ ) het bestaan uit akademiese personeel van die volgende universiteite: Noordwes-Universiteit, Universiteit van Port Elizabeth en Universiteit van die Oranje Vrystaat. Die UWES, Poseise-Hulpbronne-vraelys en biografiese vraelys is afgeneem. Die betroubaarheid en geldigheid van die meetinstrumente is bepaal deur die gebruik van Cronbach alfakoëffisiënte en verkennende faktoranalise. Beskrywende statistiek (rekenkundige gemiddeldes en standaardafwykings) is gebruik om die data te ontleed. Pearson korrelasies en meervoudige regressie-analise is bereken om te bepaal of werkeise en werkhulpbronne werkbegeestering kan voorspel.

Hoofkomponente analise het geresulteer in 'n een-faktormodel van werksbegeestering (energie/toewyding). Hierdie faktor het 'n aanvaarbare alfakoëffisiënt getoon. Betreffende poseise en hulpbronne is vyf betroubare faktore onttrek, naamlik Organisasie-ondersteuning, Groeigeleenthede, Sosiale Ondersteuning, Oorlading en Werksonsekerheid. Die korrelasiekoëffisiënte het aangedui dat werkbegeestering positief verband hou met groeigeleenthede, organisasie-ondersteuning en sosiale ondersteuning. 'n Regressie-analise met werkbegeestering as afhanklike veranderlike het aangedui dat organisasie-ondersteuning en

groeigeleenthede in die pos die beste voorspellers van werkbegeestering was. Werkhulpbronne het 46% van die variansie in werkbegeestering voorspel, maar slegs twee hulpbronne, naamlik organisasie-ondersteuning en groeigeleenthede het statisties betekenisvolle regressiekoëffisiënte getoon.

Aanbevelings vir toekomstige navorsing is aan die hand gedoen.

## **CHAPTER 1**

### **INTRODUCTION**

This mini-dissertation focuses on the relationships between work engagement, job demands and job resources of academic staff in South African higher education institutions.

In this chapter the problem statement and the research objectives (including the general and specific objectives) are discussed. Following this, the research method is discussed.

#### **1.1 PROBLEM STATEMENT**

Since the beginning of this century, more attention has been paid to what has been coined positive psychology: the scientific study of human strength and optimal functioning. This approach is considered to supplement the traditional focus of psychology on psychopathology, disease, illness, disturbance, and malfunctioning. The recent trend to concentrate on optimal functioning also arouses attention to occupational health psychology, as demonstrated in the recent plea for positive organisational behaviour, that is "...the study of positively orientated human resource strengths and psychological capacities that can be measured, developed, and effectively managed for performance improvement in today's workplace" (Luthans, 2002).

It is evident that in recent years, work pressure has been constantly rising within academics, and the persistent demands of academic work could almost inevitably lead to adverse work consequences for academic staff (Singh & Bush, 1998). In fact, the incidences of stress and burnout, as well as the claim of "stress" have now achieved the prominence of social epidemic among academics (Kinman, 2001). However, despite the widespread complaints about stresses and strains, most academics know that there are also times when they operate "in the zone" at work (Barkhuizen & Rothmann, 2005). Time is suspended, there is an intense task focus and pleasurable emotions, accompanied by high levels of enthusiasm. Moreover, with the emergence of the positive psychological paradigm, now also evident in South Africa, it is not surprising that the concept of burnout has recently been supplemented with its positive antithesis: work engagement (Schaufeli, 2003; Rothmann, 2003; Strümpfer, 1990, 2002; Wissing & van Eden, 2002).

Work engagement is defined as a positive, fulfilling, work-related state of mind that is characterised by vigour, dedication, and absorption (Schaufeli, Salanova, González-Romá, & Bakker 2002). Rather than a momentary and specific state, engagement refers to a more persistent and pervasive affective-cognitive state that is not focused on any particular object, event, individual, or behaviour. *Vigour* is characterised by high levels of energy and mental resilience while working, the willingness to invest effort in one's work, and persistence even in the face of difficulties. *Dedication* refers to being strongly involved in one's work and experiencing a sense of significance, enthusiasm, inspiration, pride, and challenge. *Absorption* is characterised by being fully concentrated and happily engrossed in one's work, whereby time passes quickly and one has difficulties with detaching oneself from work.

When the concept of work engagement is measured, it is important to use a valid and reliable instrument. Schaufeli, Salanova, Gonzalez-Roma, and Bakker (2002) developed the Utrecht Work Engagement Scale (UWES). The UWES is a self-report instrument that includes items such as: "I feel strong and vigorous in my job" (vigour); "I am enthusiastic about my job" (dedication); "I feel happy when I'm engrossed in my work" (absorption). In terms of this measuring instrument, work engagement is defined as a persistent, fulfilling, work-related state of mind that is not focused on any particular object, event, individual or behaviour. Schaufeli et al. (2002) found acceptable psychometric properties for the UWES. More specifically, two recent South African studies using confirmatory factor analysis demonstrated the factorial validity of the UWES (Naudé, 2003; Rothmann & Storm, 2003). Problem items were identified in these studies, but no studies regarding the suitability of the adapted items have been conducted. These authors also found acceptable internal consistencies for the UWES.

A great deal of research has been devoted to the understanding of the factors that contribute to work engagement. Several theories and models have been developed to explain the effects of job demands and job resources on work engagement. These include the Job-Demands-Resources (JDR) model, Comprehensive Burnout and Engagement (COBE) model and The Conservation of Resources (COR) theory.

Demerouti, Bakker, Nachreiner, 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. Job resources refer to those

physical, psychological, social, or organisational aspects of the job that either/or (1) reduce job demands and the associated physiological costs; (2) are functional in achieving work goals; (3) stimulate personal growth, learning and development (Hobfoll, 2002), for example receiving feedback, participation in decision making and supervisory support (Schaufeli & Salanova, 2005). Jones and Fletcher (1996, p. 36) define demands as the degree to which the environment contains stimuli that peremptorily require attention and response.

Schaufeli and Bakker (2002) extended the JD-R model by including engagement and adding indicators for health impairment and organisational withdrawal in the Comprehensive Burnout and Engagement (COBE) Model. The COBE-model (also known as the dual-process model) assumes two psychological processes, namely the energetic and motivational process. The energetic process links job demands with health problems via burnout. The motivational process links job resources via engagement with organisational outcomes. Job resources may play either an intrinsic motivational role (by fostering the employee's growth, learning and development), or they may play an extrinsic motivational role (by being instrumental in achieving work goals). Schaufeli and Bakker (2002) confirmed the model in an empirical study in the Netherlands. Job demands were associated with exhaustion, whereas job resources were associated with engagement. Applied within the South African context, similar trends were observed. Jackson, Rothmann, and Van de Vijver (in press) reported that job demands and a lack of job resources contributed to burnout, whereas job resources predicted work engagement. Coetzer and Rothmann (2004) found that job demands and a lack of resources increased the levels of burnout, while the availability of resources increased the levels of engagement.

The COR theory's central tenets are that people have a basic motivation to obtain, retain and protect what they value. The things that people value are called resources, of which there are several types, including material, social and energetic resources. In general, resources are those personal energies and characteristics, objects and conditions that are valued by individuals or that serve as means for the attainment of other objects, personal characteristics, conditions or energies. Examples of internal resources are optimism, self-esteem and self-efficacy. Examples of external resources are employment, social support and economic status. The concept of vigour, as part of engagement, relates to energetic resources only, namely physical, emotional and cognitive energies. It carries with it the connotation of these resources being augmented over time. Vigour represents an effective state that individuals

attribute to their job and workplace when asked about it and do so spontaneously, in contrast with emotional traits like positive affectivity that refers to the tendency to experience positive affect across situations and time (Shirom, 2005). Feeling vigorous is probably directly related to one's appraisal of relevant job demands and available coping resources, as proposed by Lazarus appraisal theory (Lazarus, 1999).

A longitudinal study of Bakker, Euwema, and Van Dieren (2004) among employees from a pension fund company showed indeed that job resources such as social support from one's colleagues and job autonomy were positively related to levels of engagement that were measured two years later. Also, a reversed causal link was observed in this study, indicating that engaged employees were successful over time.

Historically academic work has been seen as highly satisfying and, in comparison with other occupations, relatively stress free (Willie & Stecklein, 1982). It was generally believed that autonomy, role clarity, tenure, and a collegiate culture protected academics from stressors and strains (French, Caplan, & Van Harrison, 1984). However, recent research suggests that working conditions have changed considerably. Thorsen (1996) argues that academics now experience similar pressures to professionals in any large organisation. Research regarding work engagement of academics and the relationship thereof with job demands and job resources, is therefore necessary.

The following research questions arise, based on the above mentioned description of the research problem:

- Is the Utrecht Work Engagement Scale (UWES) a reliable and valid measurement instrument for work engagement for academic staff in South African higher education institutions?
- What are the relationships between work engagement, job demands and job resources among academic staff of South African higher education institutions?
- Which job demands and job resources predict the work engagement of academic staff in South African higher education institutions?

## **1.2 RESEARCH OBJECTIVES**

The research objectives can be divided into a general objective and specific objectives.

### **1.2.1 General objective**

The general objective of this study was to investigate the relationships between work engagement, job demands and job resources of academic staff in South African higher education institutions.

### **1.2.2 Specific objectives**

The specific objectives of this study were the following:

- To investigate whether the Utrecht Work Engagement Scale (UWES) could be regarded as a reliable and valid measurement of work engagement for academic staff in South African higher education institutions.
- To assess the relationships between work engagement, job demands and job resources among academic staff of South African higher education institutions.
- To identify which job demands and job resources could be used to predict work engagement of academic staff in South African higher education institutions.

## **1.3 RESEARCH METHOD**

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

### **1.3.1 Literature review**

The literature review focused on previous research on work engagement, job demands and job resources and the measurement of these constructs. An overview is given of the conceptualisation of these constructs in literature, and on the findings in terms of measuring work engagement and job characteristics.

### **1.3.2 Empirical study**

The empirical study entailed that the specifically stated objectives could be achieved as follows:

#### **1.3.2.1 Research design**

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

#### **1.3.2.2 Participants**

The participants were 471 academic staff members from three South African universities. The universities include North-West University, The University of Port Elizabeth and the University of the Orange Freestate.

#### **1.3.2.3 Measuring instruments**

The Utrecht Work Engagement Scale, the Job Demands-Resources Scale and a biographical questionnaire were used in this study.

The *Utrecht Work Engagement Scale (UWES)* (Schaufeli et al., 2002) is used to measure the levels of engagement. Four items in which the language is simplified are added to the 17-item UWES. Three dimensions of engagement can be distinguished, namely Vigour (6 items; e.g. "I am bursting with energy in my work"), Dedication (5 items; e.g. "I find my work full of meaning and purpose") and Absorption (6 items; e.g. "When I am working, I forget everything else around me"). Reliability coefficients for the three subscales have been determined between 0,68 and 0,91. In a South African sample of police officers, Rothmann and Storm (2003) obtained the following alpha coefficients for the three sub-scales: Vigour: 0,78; Dedication: 0,89 and Absorption: 0,78. Other South African studies obtained Cronbach



alpha coefficients varying from 0,70 for Vigour and 0,81 for Dedication to 0,87 (Vigour/Dedication) and 0,57 to 0,61 for Absorption (Jackson & Rothmann, in press; Naudé & Rothmann, 2004). In light of the fact that most items on the UWES are framed in a positive manner it was decided to include and mix the items of an adapted version of the MBI-GS (including the Depersonalisation scale of the MBI-ES) in one questionnaire. The latter is predominantly phrased in a negative manner and should guard against the possibility of response sets.

The *Job Demands-Resources Scale* (JDRS) was developed by the authors to measure job demands and job resources for employees. The JDRS consists of 41 items. The questions are rated on a four-point scale ranging from 1 (*never*) to 4 (*always*). The dimensions of the JDRS 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, uncertainty about the future, remuneration and career possibilities.

A *questionnaire* was developed to gather information about the demographic characteristics of the participants. Information that was gathered included the following: city and university, gender, marital status, language, age, educational qualifications, job category, job title, main educational focus, years in current institution and years in current job.

#### **1.3.2.4 Statistical analysis**

The SPSS-program is used to carry out statistical analysis regarding reliability and validity of the measuring instruments, descriptive statistics, correlation coefficients, and multiple regression analysis (SPSS Inc., 2003). The reliability and validity of the measuring instruments are assessed with the use of Cronbach alpha coefficients and exploratory factor analysis (Clark & Watson, 1995). Descriptive statistics (e.g. means, and standard deviations) are used to analyse the data. Exploratory factor analysis is used to assess the structure of the measuring instruments.

Pearson product-moment correlation coefficients are used to specify the relationships between the variables. The level of statistical significance is set at  $p < 0,05$ . Effect sizes are used to decide on the significance of the findings. A cut-off point of 0,30 (medium effect,

Cohen, 1988) is set for the practical significance of correlation coefficients.

A standard multiple regression analysis is used to assess whether job demands and job resources can predict work engagement.

#### **1.4 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.

#### **1.5 CHAPTER SUMMARY**

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

Chapter 2 focuses on the research article.

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## **CHAPTER 2**

### **RESEARCH ARTICLE**

# WORK ENGAGEMENT OF ACADEMIC STAFF IN SOUTH AFRICAN HIGHER INSTITUTIONS

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## ABSTRACT

The objectives of this study were to assess the psychometric properties of the Utrecht Work Engagement Scale (UWES) for academics in South African higher education institutions and to investigate the relationship between engagement, job demands and job resources. A cross-sectional survey design was used. Stratified random samples ( $N = 471$ ) were taken of academic staff in three higher education institutions in South Africa. The UWES and the Job Demands-Resources Scale (JDRS) were administered. Exploratory factor analysis of the UWES resulted in one factor, namely Work Engagement. Five factors were extracted on the JDRS, namely Organisational Support, Growth Opportunities, Communion, Overload and Job Insecurity. The scales showed acceptable reliabilities. The results showed that organisational support and growth opportunities predicted 65% of the variance in work engagement.

## OPSOMMING

Die doelstellings van hierdie studie was om die psigometriese eienskappe van die Utrechtse Werksbegeesteringskaal (UWES) vir Suid-Afrikaanse akademici in hoëronderwysinstellings te bepaal en ondersoek in te stel na die verband tussen werksbegeestering, werkeise en werkhulpbronne. 'n Dwarssnee opname-ontwerp is gebruik. Gestratifiseerde ewekansige steekproewe ( $N = 471$ ) van akademiese personeel van drie hoër opvoedkundige instellings in Suid-Afrika is geneem. Die UWES en die Werkseise-hulpbronne vraelys (JDRS) is afgeneem. Verkennende faktorontleding op die UWES het geresulteer in een faktor, naamlik Werkbegeestering. Vyf faktore is op die JDRS onttrek, naamlik Organisasie-ondersteuning, Groeigeleenthede, Sosiale Ondersteuning, Oorlading en Werksonsekerheid. Die skale het aanvaarbare betroubaarheid getoon. Die resultate het aangetoon dat organisasie-ondersteuning en groeigeleenthede 65% van die variansie in werksbegeestering voorspel het.

Psychology, with its emphasis on human suffering, has been criticised for focusing too much on pathology (negative states) instead of positive outcomes in the work environment. Diener, Suh, Lucas, and Smith (1999) showed that 17 times more scientific articles were published on negative feelings than on positive feelings. Meyers (2000) found a more favourable ratio of 14:1. More recently in counting the scientific articles from January 1999 until September 2005 a more promising ratio of 12:1 unfolded. More specifically 815 work engagement articles have been published in scientific journals since the turn of the millennium. The field of psychology has been subjected to an emerging shift towards positive psychology with the focus on human strengths and optimal functioning, rather than on weaknesses, malfunctioning and damage (Seligman & Csikszentmihayi, 2000). Thus, as a result, pathological negative concepts such as burnout, have been supplemented with its positive antithesis, commonly labelled as work engagement.

Although no definite consensus regarding a formal definition of the term "engagement" appears in research literature (Finn & Rock, 1997), some common threads have emerged about the nature of the construct. One point of agreement seems to be that employee engagement involves the expression of the self through work and other employee-role activities. This conceptualisation can be seen in the definitions of engagement by Schaufeli and Bakker (2004), and Kahn (1990). Schaufeli and Bakker defined work engagement as "a positive, fulfilling work-related state of mind that is characterized by vigour, dedication and absorption" (2004, p. 295). Similarly, Kahn referred to engagement as "the harnessing of organization members' selves to their work roles (by which they) employ and express themselves physically, cognitively and emotionally during role performances" (1990, p. 264). Implicit in these definitions is a second commonality, namely, that engagement occurs on a regular, day-to-day basis, and is actively applied to and through the employee's work behaviours (see also Harter, Schmidt, & Hayes, 2002; May, Gilson, & Harter, 2004).

Work engagement is a relevant concept for employee well-being and work behaviour for several reasons. Firstly, work engagement is related to positive organisational outcomes such as job satisfaction, organisational commitment and low turnover intention (Bakker, Demerouti, & Schaufeli, 2003; Schaufeli & Bakker, 2004). Secondly, work engagement is related to positive organisational behaviour such as personal initiative and learning (Sonnentag, 2003), extra-role behaviour (Salanova, Agut, & Peiró, in press), and proactive behaviour (Salanova, Llorens, Cifre, Martinez, & Schaufeli, 2003). Finally, work engagement



has been found to be positively related to health i.e. low depression and distress (Schaufeli, Taris, & Van Rhenen, 2004) and psychosomatic complaints (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001).

Given the significance of work engagement for the individual, it is necessary to have a standardised instrument to measure work engagement. Schaufeli, Salanova, Gonzalez-Roma, and Bakker (2002) developed the Utrecht Work Engagement Scale (UWES) and found acceptable reliability for it.

Engagement is influenced by several factors. Sonnentag (2003) showed that the level of experienced work engagement is positively associated with the extent to which employees recovered from the previous working day. Moreover, work engagement is positively related to self-efficacy (Salanova et al., 2001). In another study across three countries it was found that engagement is positively related to self-reported academic performance (Schaufeli et al., 2002). Within the South African context Coetzer and Rothmann (2004) found that job demands and a lack of resources increased the levels of burnout, while the availability of resources increased the levels of work engagement. Thus a study of wellness of academics seems imperative from a research point of view (Barkhuizen, in press).

The objectives of this study were to assess the psychometric properties of the Utrecht Work Engagement Scale (UWES) for academics in South African higher education institutions and to investigate the relationship between work engagement, job demands and job resources.

### **Work engagement**

Roberts and Davenport (2002) define work engagement as a person's involvement in his or her job. Individuals who are highly engaged in their jobs identify personally with the job and are motivated by the work itself. They tend to work harder and more productively than others and are more likely to produce the results their customers and organisations want. Engaged employees report that their jobs make good use of their skills and abilities, is challenging and stimulating, and that it provides them with a sense of personal accomplishment. Rather than a **momentary and specific state**, engagement refers to a more persistent and pervasive affective-cognitive state focused on any particular object, event, individual or behaviour (Schaufeli & Bakker, 2001).

The basic model underlying the UWES (Utrecht Work Engagement Scale) holds that work engagement is a multidimensional syndrome that consists of three dimensions, namely vigour, dedication and absorption (Schaufeli & Bakker, 2001). *Vigour* represents a positive affective response to one's ongoing interactions with significant elements in one's job and work environment that comprises the interconnected feelings of physical strength, emotional energy and cognitive liveliness. Theoretically, this view of vigour is derived from Hobfoll's (1989, 1998) Conservation of Resources COR theory. *Dedication* is characterised by deriving a sense of significance from one's work, by feeling enthusiastic, proud about one's job, and by feeling inspired and challenged about it. *Absorption* is characterised by being totally and happily immersed in one's work and having difficulties detaching oneself from it. Time passes quickly and one forgets everything else that is around (Schaufeli & Bakker, 2001).

Schaufeli and Bakker (2001) describe the following characteristics of engaged employees:

- Engaged employees take initiative and give direction to their lives. They do not submit passively to the influence of the environment, but rather give form to it, as well as direction to their lives. If they always have to perform the same functions with the same clients they may look for challenges outside their current environment.
- They generate their own positive feedback. They create "rewards" in the form of recognition, success, administration and appreciation through their attitudes and activities. Thereby a positive spiral is maintained.
- Engaged employees also show engagement outside their work environment. Characterised by energy and enthusiasm, both in their work and their private lives, they have a type of energy that never seems to fade. Their norms and values correspond with those of their employing organisation.
- Engaged employees experience exhaustion because their energy reserves are also limited. However, the exhaustion they experience can be described as "exhausted but satisfied".
- Engaged employees might have been burned out and burned out employees might have shown strong engagement previously. Edelwich and Brodsky (1980) describe burnout as a process of "progressive disillusionment, whereby initial enthusiasm gradually makes place for frustration, which ends up in apathy. However, the reverse is also true: employees, who previously suffered from burnout, show high levels of engagement later in their lives".

- Engaged employees are not workaholics. They experience pleasure in their work and also enjoy hobbies and voluntary work in the community. In contrast, workaholics give the impression of being stressed and compulsive.

Possible consequences of work engagement pertain to positive attitudes towards work and towards the organisation, such as job satisfaction, organisational commitment, and low turnover intention (Demerouti et al., 2001; Salanova et al., 2000; Schaufeli & Bakker, 2001; Schaufeli, Taris, & Van Rhenen, 2003). According to Leiter and Maslach (1988), linkages with burnout research suggest that while organisational commitment seems to diminish in the presence of burnout, engagement is a useful indicator of commitment – and to such an extent that engaged employees are loyal and psychologically committed to the organisation (Blizzard, 2002). People who are engaged in their jobs tend to be committed to their organisations, and vice versa.

In many organisations, work engagement and organisational commitment are closely related, often to such an extent that it makes sense to talk about a more general outcome – organisational engagement – that combines key elements of work engagement and organisational commitment (Roberts & Davenport, 2002). Although the two concepts are related, they are not identical – organisational commitment focuses on the organisation, whereas engagement is more concerned with the work itself (Maslach, Schaufeli, & Leiter, 2001). People can be engaged in their jobs, but not be committed to their organisations, or committed to their organisations, but not engaged in their jobs. Winter, Taylor, and Sarros (2000) found that although academics remain very attached to their job/work activities, they do not exhibit the same levels of attachment to their institutions.

### **Measurement of work engagement**

Engagement is operationalised with the Utrecht Work Engagement Scale (UWES), a self-report questionnaire that includes the three consisting aspects of work engagement. Vigour is assessed by six items; dedication is assessed by five items; and six items measure absorption (Schaufeli, Salanova, Gonzalez-Roma, & Bakker, 2002).

Results of confirmatory factor analysis of the UWES suggest a three-dimensional structure, although these three dimensions are very closely related. Correlations between the three

scales usually exceed 0,65 (e.g. Demerouti, Bakker, Janssen, & Schaufeli, 2001; Schaufeli, Salanova et al., 2002; Schaufeli & Bakker, 2003, 2004), whereas correlations between the latent variables range from 0,80 to about 0,90 (Salanova et al., 2000; Schaufeli & Bakker, 2003, 2004). It seems that for practical purposes, the total score of the UWES can be used (Salanova & Schaufeli, 2005). Applied to the South African context, most studies confirmed a three-factor solution (i.e. Storm & Rothmann, 2003; Jackson & Rothmann, in press) for the UWES, while one study obtained a two-factor structure (Naudé & Rothmann, 2004). Furthermore, internal consistencies seem promising – at least for the vigour and dedication scales.

South African studies indicated problems with the absorption subscale, to such an extent that it was not considered useful in an analysis with demographic variables (i.e. Jackson & Rothmann, in press). Rothmann (2005) in a study of work engagement in South African organisations found that the absorption scale of the UWES showed problems in most studies with either low reliability or poor loadings. He suggested that translation and simplification of the problematic absorption items should be considered.

### **Job demands and resources**

Demerouti, Nachreiner, Bakker, and Schaufeli (2001) developed the Job Demand-Resources (JD-R) model. A central assumption of the JD-R model is that although every occupation may have its own specific work characteristics associated with well-being, it is still possible to model these characteristics in two broad categories namely, job demands and job resources. *Job demands* refer to those physical, psychological, social, or organisational aspects of the job that require sustained physical and/or psychological (cognitive and emotional) effort and are therefore associated with certain physiological and/or psychological costs. Examples are a high work pressure, role overload, emotional demands and poor environmental conditions.

*Job resources* are those physical, psychological, social or organisational aspects of the job that may be functional in achieving work goals, reducing job demands (with the associated physiological and psychological costs), and stimulating personal growth and development. Resources may be located at the level of the organisation (e.g. salary, career opportunities, job security), interpersonal and social relations (e.g. supervisor and co-worker support, team

climate), the organisation of work (e.g. role clarity, participation in decision making), and the level of the task (e.g. performance feedback, skill variety, task significance, task identity, autonomy). Job resources may play either an intrinsic motivational role (by fostering the employee's growth, learning and development), or they may play an extrinsic motivational role (by being instrumental in achieving work goals). In general, job demands and resources are negatively related, since job demands such as a high work pressure and emotionally demanding interactions with clients may preclude the mobilisation of job resources. Also, high job resources, such as social support and feedback, may reduce job demands.

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 as well as 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.

Conservation of Resources (COR) theory (Hobfoll, 1989, 1998) is a relevant theory for understanding the effects of job resources (or the lack thereof) on employees. The COR theory's central tenets are that people strive to obtain, retain and protect what they value. The things that people value are called resources, of which there are several types, including material, social and energetic resources. In general, resources are those personal energies and characteristics, objects and conditions that are valued by individuals or that serve as means for the attainment of other objects, personal characteristics, conditions or energies. Examples of resources include social support, job enhancement opportunities, degree of participation in decision making, being psychologically well or having an optimistic personality, level of autonomy, and established behaviour outcome contingencies (Hobfoll, 1989; Lee & Ashforth, 1996). Workload, role ambiguity, role conflict, and stressful events in general are examples of work demands (Wright & Hobfoll, 2004). The COR theory argues that personal resources affect each other and exist as a resource pool, and that an expansion of one is often associated with the other being augmented (Hobfoll, 1999).

When the external environment lacks resources, individuals cannot reduce the potentially negative influence of high job demands and they cannot achieve their work goals. Additionally, they cannot develop themselves further in their job and organisation. The Conservation of Resources theory predicts that in such a situation, employees will experience a loss of resources or failure to gain an investment (Hobfoll, 1989; Hobfoll & Freedy, 1993). Moreover, in order to reduce this discomfort or job stress, employees will attempt to minimise losses. With the intention of achieving equity without having further negative, personal consequences they will most probably reduce their discretionary inputs.

Resources allocated to universities have decreased due to the competing demands of the state. As funding decreases and is influenced by market and industry needs, higher education cannot simply continue to offer programmes as it did in the past (Koorts, 2000). Institutions need to identify what is relevant to the market and accordingly deliver the programmes that can meet these needs. A premium is also placed on the professional identity of the university teacher as a researcher, capable of attracting external funds within an increasingly competitive research culture (Nixon, Marks, Rowland, & Walker, 2001).

As careers become more complex, people are increasingly faced with actively engaging in multiple roles to fulfil job expectations. Consequently, the attitudes, behaviours and emotions associated with one role may spill over to another (Edwards & Rothbard, 2000). Also, in the academic context, the emergence of a so-called 'knowledge economy' has changed the traditional role of the academic in a fundamental way (Blackmore, 2001). Fisher (1994) suggested that such a plethora of roles might easily result in role overload, a particular salient stressor for the modern academic. However, Lease (1999) reported that academics, irrespective of high levels of role overload and overwhelming workloads, still indicated that their careers were progressing as well as expected.

Research shows that work engagement is positively associated with job resources; that is with those aspects of the jobs that have the capacity to reduce demands, are functional in achieving work goals, and may stimulate personal growth, learning and development (Schaufeli & Salanova, 2005). Within the South African academic context, Barkhuizen and Rothmann (2005) recently found that the availability of job resources predicted higher levels of work engagement among South African academics.

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

*Hypothesis 1:* The Utrecht Work Engagement Scale (UWES) is a reliable and valid measurement instrument for work engagement of academic staff in South African higher education institutions.

*Hypothesis 2:* Job resources relate positively and job demands relate negatively to the work engagement of academics.

### **Aims of the study**

The aims of this study were to assess the psychometric properties (validity and reliability) of the Utrecht Work Engagement Scale (UWES) and to investigate whether job demands and job resources predict the work engagement of academics in higher education institutions in South Africa.

## **METHOD**

### **Research design**

A survey design was utilised to attain the research objectives. The specific design is a cross-sectional design, whereby a sample is drawn from a population at the same time (Shaughnessy & Zechmeister, 1997). According to Shaughnessy and Zechmeister (1997) this design is ideal to address the descriptive functions affiliated with correlational research.

### **Participants**

The participants were academic staff from South African higher education institutions ( $N = 471$ ). The characteristics of the participants are shown in Table 1.

Table 1

*Characteristics of the Participants*

Item	Category	Frequency	Percentage
University	Northwest-University	296	62,8
	University of Port Elizabeth	86	18,3
	University of the Orange Free State	88	18,7
Education	Grade 12 + 3 year Degree (1)	42	9,1
	Grade 12 + 4 year Degree or Honours (2)	81	17,5
	Grade 12 + 5 to 7 year Degree (e.g. medicine) (3)	3	0,6
	Grade 12 + Master's Degree (4)	118	25,4
	Grade 12 + Doctoral Degree (5)	151	32,5
Gender	Male	201	43,7
	Female	259	56,3
Marital status	Single/ widow/ widower	74	15,8
	Engaged/ in a relationship	33	7,0
	Married	313	66,7
	Divorced	38	8,1
	Separate	7	1,5
	Remarried	4	0,9
Age category	19-29 years	71	15,5
	30-39 years	120	26,2
	40-49 years	131	28,6
	50-59 years	115	25,2
	60-69 year	20	4,4
Language	Afrikaans	346	74,4
	English	69	14,8
	SePedi	4	0,9
	SeSotho	6	1,3
	SeTswana	31	6,7
	IsiZulu	1	0,2
	IsiNdebele	2	0,4
	IsiXhosa	6	1,3
Years experience	0-5 years	238	52,3
	5,1-10 years	77	17,1
	10,1-40 years	139	21,7

As can be seen from Table 1 most of the participants were from North-West University (62,8%) and in possession of a doctoral degree (32,5%). Females constituted 56,3% of the sample, were married (66,7%), between the ages of 40–49 years (28,6%), Afrikaans speaking (74,4%) with an average years' experience of 0-5 years (52,3%).



## Measuring instrument

The *Utrecht Work Engagement Scale* (UWES) (Schaufeli et al., 2002) was used to measure the levels of engagement. Four items in which the language was simplified were added to the 17-item UWES. The UWES is scored on a seven-point frequency scale, ranging from 0 (*never*) to 6 (*every day*). Three dimensions of engagement can be distinguished, namely Vigour (6 items; e.g. "I am bursting with energy in my work"), Dedication (5 items; e.g. "I find my work full of meaning and purpose") and Absorption (6 items; e.g. "When I am working, I forget everything else around me"). In terms of internal consistency, reliability coefficients for the three subscales have been determined between 0,68 and 0,91. In a South African sample of police officers, Storm and Rothmann (2003) obtained the following alpha coefficients for the three subscales: Vigour: 0,78; Dedication: 0,89 and Absorption: 0,78. Other South African studies obtained Cronbach alpha coefficients varying from 0,70 for Vigour and 0,81 for Dedication to 0,87 (Vigour/Dedication) and 0,57 to 0,61 for Absorption (Jackson & Rothmann, in press; Naudé & Rothmann, 2004). In light of the fact that most items on the UWES are framed in a positive manner, it was decided to include and mix the items of an adapted version of the MBI-GS (including the Depersonalisation scale of the MBI-ES) in one questionnaire. The latter is predominantly phrased in a negative manner and should guard against the possibility of response sets.

The *Job Demands-Resources Scale* (JD-RS) was developed by the authors to measure job demands and job resources for employees. The JD-RS consists of 48 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, variety in work, opportunities to learn, independence in work, relationship with colleagues, relationship with immediate supervisor, ambiguities about work, information, communications, participation, contact possibilities, uncertainty about the future, remuneration and career possibilities.

A *questionnaire* was developed to gather information about the demographic characteristics of the participants. Information that was gathered included the following: city and university, gender, marital status, language, age, educational qualifications, job category, job title, main educational focus, years in current institution and years in current job.

## **Statistical analysis**

The statistical analysis was carried out with the SPSS Program (SPSS, 2003). The reliability and validity of the UWES were determined by means of Cronbach alpha coefficients, as well as exploratory factor analysis.

Exploratory factor analysis was performed to investigate the factor structures of the UWES and the JDRS. Firstly, a simple principal components analysis was conducted on the constructs. The eigenvalues and scree plot were studied to determine the number of factors. Secondly, a principal components analysis with a direct oblimin rotation was conducted if factors were related, and a principal component analysis with a varimax rotation was used if the obtained factors were not related (Tabachnick & Fidell, 2001).

Pearson product-moment correlation coefficients were used to specify the relationship between the variables. In terms of significance, it was decided to set the value at a 95% confidence interval level ( $p < 0,05$ ). 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. Multiple regression analysis was performed to assess which job demands and resources predict work engagement.

## **RESULTS**

Firstly, an item analysis was conducted on the UWES. Within the South African context, most studies confirmed a two-factor solution (i.e. Storm & Rothmann, 2003; Jackson & Rothmann, in press) for the UWES, while Naudé and Rothmann (2004) in one study obtained a two-factor structure. Furthermore, internal consistencies seem promising – especially for the vigour and dedication scales. However, problems were typically experienced with the Absorption subscale. With an alpha value of 0,57 in a study of teachers, Jackson and Rothmann (in press) did not consider it useful in an analysis with demographic variables. Naudé and Rothmann (2004) obtained an alpha score of 0,61 for Absorption. Finally, Rothmann (2005) in a study of work engagement in South African organisations, found that Absorption showed problems in most studies with either low internal consistencies or poor loadings. Therefore it was decided to exclude the absorption scale from this analysis.

A simple principal component analysis was conducted on the 12 remaining items of the

UWES on the total sample of academic staff. Analysis of the eigenvalues (larger than 1) and scree plot indicated that one factor could be extracted. Next, a principal components analysis with a direct oblimin rotation was used. The results are reported in Table 2.

Table 2

*Item Analyses of the 12-item UWES*

Item	Description	Factor 1	$h^2$
UWES 1	I am bursting with energy in my work	0,69	0,47
UWES 2	I find my work full of meaning and purpose	0,78	0,61
UWES 4	I feel strong and vigorous in my job	0,75	0,56
UWES 5	I am enthusiastic about my job	0,80	0,64
UWES 7	My job inspires me	0,85	0,72
UWES 8	When I get up in the morning, I feel like going to work	0,74	0,54
UWES 10	I am proud of the work that I do	0,62	0,39
UWES 12	In my job, I can continue working for long periods at a time	0,60	0,36
UWES 13	My work is challenging	0,72	0,52
UWES 15	I am very resilient, mentally, in my job	0,45	0,20
UWES 16	It is difficult to detach myself from my job	0,41	0,17
UWES 17	I always persevere at work, even when things do not go well	0,43	0,19

The results showed that two items were complex and problematic ( $h^2 < 0,20$ ). These items were: a) Item 16 – "It is difficult to detach myself from my job" and b) Item 17 – "I always persevere at work, even when things do not go well". The above-mentioned two items either had significant cross-loading on more than one factor or loadings on a specific factor that did not make sense. After removal of the two items, a simple factor analysis was conducted again. The eigenvalues showed one factor which explained 50,87% of the total variance. The results are indicated in Table 3.

Table 3

*Item Analyses of the 10-item UWES*

Item	Description	Factor 1	Communalities
UWES 1	I am bursting with energy in my work	0,70	0,49
UWES 2	I find my work full of meaning and purpose	0,80	0,62
UWES 4	I feel strong and vigorous in my job	0,76	0,56
UWES 5	I am enthusiastic about my job	0,81	0,66
UWES 7	My job inspires me	0,85	0,73
UWES 8	When I get up in the morning, I feel like going to work	0,75	0,56
UWES 10	I am proud of the work that I do	0,63	0,39
UWES 12	In my job, I can continue working for long periods at a time	0,58	0,34
UWES 13	My work is challenging	0,72	0,52
UWES 15	I am very resilient, mentally, in my job	0,44	0,20

Item 15 – "I am very resilient, mentally, in my job", was still problematic. The word "resilient" might have been misunderstood. The item loaded on Absorption instead of vigour/dedication where it was supposed to load. Work engagement, as measured by the UWES, is a one-dimensional construct for the measurement of academics in tertiary institutions and not a two-dimensional construct.

Compared to a national norm, 25,6% of educators in universities had low levels of vigour and 25,4% had low dedication. Twenty-six per cent showed high levels of vigour and 22,8% showed high levels of dedication.

The results of the factor analysis on the JDRS are shown in Table 4. Loading of variables on factors and communalities are shown. Variables are ordered and grouped by size of loading to facilitate interpretation.

Table 4

*Factor Loadings Principal Factor Extraction and Varimax Rotation on the JDRS*

Item	F <sub>1</sub>	F <sub>2</sub>	F <sub>3</sub>	F <sub>4</sub>	F <sub>5</sub>	<i>h</i> <sup>2</sup>
Rely on supervisor when facing difficulties in work	<b>0,60</b>	0,00	0,00	0,00	0,00	0,70
Get on well with supervisor	<b>0,69</b>	0,00	0,00	0,00	0,00	0,70
Feel appreciated by supervisor	<b>0,76</b>	0,00	0,00	0,00	0,00	0,74
Know exactly what other people expect of work	<b>0,64</b>	0,00	0,00	0,00	0,00	0,65
Know exactly what responsibilities are and what not	<b>0,51</b>	0,00	0,00	0,00	0,00	0,60
Know exactly what direct supervisor thinks of performance	<b>0,80</b>	0,00	0,00	0,00	0,00	0,70
Receive sufficient information on the purpose of work	<b>0,73</b>	0,00	0,00	0,00	0,00	0,68
Receive sufficient information on work results	<b>0,73</b>	0,00	0,00	0,00	0,00	0,70
Receive information from direct supervisor on work performance	<b>0,78</b>	0,00	0,00	0,00	0,00	0,75
Kept adequately up-to-date about important issues	<b>0,58</b>	0,00	0,00	0,00	0,00	0,57
Clear decision-making processes	<b>0,62</b>	0,00	0,00	0,00	0,00	0,59
Clear whom to address within department/faculty/university for specific problems	<b>0,61</b>	0,00	0,00	0,00	0,00	0,59
Discuss work problems with direct supervisor	<b>0,69</b>	0,00	0,00	0,00	0,00	0,70
Participate in decisions about nature of work	<b>0,64</b>	0,00	0,00	0,00	0,00	0,67
Direct influence on department/faculty/university's decisions	<b>0,49</b>	0,00	0,00	0,00	0,00	0,57
Repeatedly do the same things in work	0,00	<b>0,45</b>	0,00	0,00	0,00	0,58
Work makes sufficient demands on all skills and capacities	0,00	<b>0,52</b>	0,00	0,00	0,00	0,52
Enough variety in work	0,00	<b>0,57</b>	0,00	0,00	0,00	0,62
Opportunities for personal growth and development	0,00	<b>0,57</b>	0,00	0,00	0,00	0,70
Feeling of work achievement	0,00	<b>0,67</b>	0,00	0,00	0,00	0,76
Possibility of independent thought and action	0,00	<b>0,68</b>	0,00	0,00	0,00	0,69
Freedom in carrying out work activities	0,00	<b>0,43</b>	0,00	0,00	0,00	0,47
Influence in planning work activities	0,00	<b>0,36</b>	0,00	0,00	0,00	0,70
Participation in decision-making in piece work	0,00	<b>0,45</b>	0,00	0,00	0,00	0,62
University pays good salaries	0,00	<b>0,48</b>	0,00	0,00	0,00	0,69
Live comfortably on pay	0,00	<b>0,58</b>	0,00	0,00	0,00	0,70
Enough pay	0,00	<b>0,56</b>	0,00	0,00	0,00	0,72
Possibility to progress financially	0,00	<b>0,64</b>	0,00	0,00	0,00	0,63
Opportunities given by university to follow training courses	0,00	<b>0,32</b>	0,00	0,00	0,00	0,42
Opportunity to be promoted	0,00	<b>0,61</b>	0,00	0,00	0,00	0,60
Too much work to do	0,00	0,00	<b>0,68</b>	0,00	0,00	0,64
Time pressure	0,00	0,00	<b>0,70</b>	0,00	0,00	0,63
Attentive to many things at the same time	0,00	0,00	<b>0,65</b>	0,00	0,00	0,57
Have to give continued attention to work	0,00	0,00	<b>0,60</b>	0,00	0,00	0,56
Have to remember many things in work	0,00	0,00	<b>0,64</b>	0,00	0,00	0,57
Confronted in work things that affect personally	0,00	0,00	<b>0,50</b>	0,00	0,00	0,56
Contact with difficult learners/students or parents in work	0,00	0,00	<b>0,33</b>	0,00	0,00	0,56
Work puts in emotionally upsetting situations	0,00	0,00	<b>0,46</b>	0,00	0,00	0,58
Count of colleagues when come across difficulties in work	0,00	0,00	0,00	<b>0,68</b>	0,00	0,74
Ask colleagues for help	0,00	0,00	0,00	<b>0,61</b>	0,00	0,70
Get on well with colleagues	0,00	0,00	0,00	<b>0,49</b>	0,00	0,55
Contact with colleagues as part of work	0,00	0,00	0,00	<b>0,51</b>	0,00	0,46
Chat with colleagues during working hours	0,00	0,00	0,00	<b>0,63</b>	0,00	0,73
Enough contact with colleagues during working hours	0,00	0,00	0,00	<b>0,56</b>	0,00	0,70
Secure in still be working in one year's time	0,00	0,00	0,00	0,00	<b>0,80</b>	0,83
Secure in keeping current job in the next year	0,00	0,00	<b>0,00</b>	0,00	<b>0,84</b>	0,90
Secure in keeping the current level of functioning	0,00	0,00	<b>0,00</b>	0,00	<b>0,77</b>	0,80

The five extracted factors accounted for 64,14% of the total variance in the data. The first factor is labelled *Organisational Support*. It reflects the extent to which one can count on

your supervisor when you come across difficulties, have the opportunity to discuss work problems with your supervisor and have clarity to whom you should address specific problems. It measures how well you are getting along and feel appreciated by your supervisor, know what your supervisor thinks of your performance and what other people expect of you in your work as well as what your responsibilities are. It also measures whether you are receiving sufficient information on the purpose and results of your work as well as other important issues within the institution. It includes the measurement of the ability to participate in decisions about the nature of your work, having a direct influence on your institution's decisions and whether the decision-making process of the institution is clear.

The second factor, *Growth Opportunities* included repeatedly doing the same things in your work, doing work that makes sufficient demands on your skills and capacities, having enough variety in your work, having a job which offers you opportunities for personal growth and development and offers you the possibility of independent thought and action, having the feeling that you can achieve something, participation in decisions about when a piece of work should be completed, receiving a good and sufficient salary to be able to live comfortably and progress financially and the opportunity to be promoted. The third factor, *Overload* is conceptualised as having too much work to do, working under time pressure, having to be attentive to many things at the same time, having to give continuous attention to your work and remembering many things. It also includes being confronted in your work with things that affect you personally and being placed in emotionally upsetting situations.

*Communion* reflects the extent to which one can count on colleagues when you come across difficulties in your work, ask them for help if necessary, get on well with them, have contact with colleagues as part of your work, are able to chat with them during working hours and have enough contact with colleagues during working hours. *Job Insecurity* reflects the 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 descriptive statistics, alpha coefficients, and correlations of the measuring instruments, namely the UWES and JDRS are reported in Table 5.

Table 5

*Descriptive Statistics and Alpha Coefficients of the Scales*

	Scale	Mean	SD	$\alpha$	1	2	3	4	5
1	Work Engagement	43,45	10,7	0,87	-	-	-	-	-
2	Organisational Support	43,52	9,16	0,92	0,44* <sup>+</sup>	-	-	-	-
3	Growth Opportunities	45,80	9,12	0,85	0,79* <sup>++</sup>	0,37* <sup>+</sup>	-	-	-
4	Overload	23,32	3,83	0,77	0,04	-0,13*	0,17*	-	-
5	Communion	19,00	3,23	0,77	0,17*	0,44* <sup>+</sup>	0,13*	-0,16*	-
6	Insecurity	6,95	3,11	0,91	-0,09	-0,17*	-0,12*	0,03	-0,06

\*  $p \leq 0,01$  – statistically significant

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

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

Table 5 shows that acceptable Cronbach alpha coefficients varying from 0,77 to 0,92 were obtained for the scales (see Nunnally & Bernstein, 1994). Inspection of Table 5 indicates that work engagement is positively related to Growth Opportunities (large effect), and Organisational Support (medium effect). Organisational Support is positively related to Growth Opportunities and Communion (both medium effects).

Engagement is positively related to Growth Opportunities (practically significant, large effect), Organisational Support and Communion (practically significant, medium effect). Engagement related negatively to Insecurity (practically significant, large effect). Organisational Support is positively related to Growth Opportunities (practically significant, large effect) and Communion (practically significant, medium effect). Growth Opportunities correlates negatively (practically significant, medium effect) with insecurity. Overload correlates negatively with Communion (practically significant, medium effect).

Next, a multiple regression analysis was carried out with job demands and job resources (as measured by the JDRS) as independent variables and work engagement (as measured by the UWES) as dependent variable (see Table 6). The independent variables were entered in blocks. Firstly, job resources were entered into the regression analysis. Thereafter, job demands were entered.

Table 6

*Regression Analysis with Work Engagement as Dependent Variable*

Model		Unstandardised Coefficients		Standardised Coefficients	<i>t</i>	<i>p</i>	<i>F</i>	<i>R</i>	<i>R</i> <sup>2</sup>	$\Delta R^2$
		B	SE	Beta						
1	(Constant)	21,31	2,16		9,86	0,00	109,35	0,44	0,19	0,19*
	Organisational Support	0,51	0,05	0,44	10,46	0,00*				
2	(Constant)	-4,06	1,77		-2,30	0,02	425,86	0,80	0,65	0,46*
	Organisational Support	0,19	0,04	0,16	5,53	0,00*				
	Growth Opportunities	0,86	0,04	0,73	24,54	0,00*				
3	(Constant)	-4,39	2,19		-2,01	0,05	283,36	0,80	0,65	0,00
	Organisational Support	0,19	0,04	0,16	4,90	0,00*				
	Growth Opportunities	0,86	0,04	0,73	24,51	0,00*				
	Communion	0,03	0,10	0,01	0,26	0,80				
4	(Constant)	-5,12	2,39		-2,14	0,03	212,48	0,80	0,65	0,00
	Organisational Support	0,19	0,04	0,16	4,96	0,00*				
	Growth Opportunities	0,86	0,04	0,73	24,50	0,00*				
	Communion	0,03	0,10	0,01	0,25	0,80				
	Insecurity	0,07	0,10	0,02	0,76	0,45				
5	(Constant)	-0,81	3,06		-0,26	0,79	172,43	0,80	0,65	0,00
	Organisational Support	0,18	0,04	0,15	4,61	0,00*				
	Growth Opportunities	0,88	0,04	0,75	24,43	0,00*				
	Communion	-0,00	0,10	0,00	-0,01	0,99				
	Insecurity	0,08	0,10	0,02	0,82	0,41				
	Overload	-0,18	0,08	-0,06	-2,23	0,03				

\*  $p < 0,01$ 

Table 6 shows that Organisational Support (which was entered in the first step), predicted 19% of the total variance of Work Engagement ( $F = 109,35$ ,  $p < 0,01$ ). The inclusion of Growth Opportunities (in step 2) resulted in an increase of 46% of the variance explained. The inclusion of Communion, Overload and Job Insecurity did not lead to significant changes in the percentage of variance in work engagement explained. Furthermore, Table 6 shows that the standardised regression coefficient for Growth Opportunities was strong compared to the coefficient for Organisational Support.

**DISCUSSION**

The objectives of this study were to assess the psychometric properties of the Utrecht Work Engagement Scale (UWES) for academics in South African higher education institutions and



to investigate the relationship between job engagement, job demands and job resources.

A one-factor structure of work engagement was found for the UWES. The studies of Maslach, Schaufeli, and Leiter (2001) and Sonnentag (2003) also resulted in a one-factor model. Two items were complex and problematic. These items were: a) Item 16 – "It is difficult to detach myself from my job" and b) Item 17 – "I always persevere at work, even when things do not go well". The above-mentioned two items either had significant cross-loading on more than one factor or loadings on a specific factor that did not make sense. Item 15 – "I am very resilient, mentally, in my job", was also problematic. These items may be problematic because they do not correspond with 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. Also, the problems of these items may be related to difficult words that some of the participants could have found difficult to understand and/or interpret (resilient) (Jackson & Rothmann, in press).

Furthermore, internal consistencies seem promising – at least for the vigour and dedication scales. Compared to European countries, South African studies indicated much lower scores on the absorption subscale, and to such an extent that it was not considered useful in an analysis with demographic variables (i.e. Jackson & Rothmann, in press). These authors found an alpha value of 0,57 in a study of teachers, while Naudé and Rothmann (2004) obtained an alpha score of 0,61. Storm and Rothmann's (2003) results, however, were more promising with  $\alpha = 0,78$  for absorption. Hypotheses 1, namely that the UWES shows acceptable reliability and construct validity is accepted.

The second hypothesis of this study was that job demands and job resources would predict work engagement. Five factors were extracted on the JDRS, namely organisational support, growth opportunities, communion, overload and job insecurity. The scales showed acceptable reliabilities. Engagement was positively related to growth opportunities, organisational support and communion and negatively related to overload and insecurity. The results of this study builds on the COBE model (Schaufeli & Bakker, 2004), which assumes two psychological processes, namely energetic and a motivational process. The motivational process links job resources via work engagement with organisational outcomes. Job resources may play either an intrinsic motivational role by fostering the employee's growth, learning

and development, or it may play an extrinsic motivational role by being instrumental in achieving work goals. Job insecurity reflects the employees' 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, related negatively to work engagement. These findings confirm the findings of Mauno, Kinnunen, Mäkikangas, and Nätti (2005) stating that under conditions of high perceived job insecurity permanent employees had lower levels of job satisfaction and work engagement.

A regression analysis with engagement as dependent variable was done. The results indicated that organisational support predicted 19% of the total variance of engagement. With the inclusion of growth opportunities both the regression-coefficients were still significant with 46% of the variance of engagement being predicted. The inclusion of other resources and demands did not lead to a better prediction of the variance. In this study, organisational support and growth opportunities predicted work engagement. Thus the prediction can be made that the presence of organisational support and growth opportunities in higher institutions in South Africa could lead to engaged academic staff. Communion also seems to be an important resource since it can promote better well-being when combined with other job resources.

From a COR theory perspective, employees must not only be willing, but also able, to invest valuable resources in order to maintain a high level of emotional attachment to their organisation. More specifically, according to the COR theory, this emotional commitment to one's employing organisation provides a primary source for social resources (Hobfoll, 1998). However, this relation suggests a dynamic notion of exchange (Hrebiniak & Alutto, 1972; March & Simon, 1958). Potential employees come to an organisation with certain needs and resources, expecting to find a work environment where they can utilise their abilities and satisfy their needs. When organisations and/or the social environment do not provide or reward employees with job resources (organisational support, growth opportunities, communion) the long term consequences include withdrawal from work, and reduced motivation and commitment.

Employees are likely to be willing and able to invest the necessary resources to initiate and maintain an emotional attachment or commitment to an organisation if two (2) conditions are met. Firstly, individuals must have the necessary resources available. Secondly, the

organisation must be perceived as providing the necessary work environment for employees to utilise their abilities and satisfy their needs. When the external resources lack, individuals cannot reduce the potentially negative influence of high job demands and they cannot achieve their work goals. Additionally, they cannot develop themselves further in their job and organisation. The COR theory predicts that in such a situation employees will experience a loss of resources or failure to gain an investment (Hobfoll, 1989; Hobfoll & Freedy, 1993).

Based on COR theory, as individuals reduce their organisational commitment, they correspondingly withdraw their investment of resources into work. As such, they are less likely to expend the necessary energy, give up other outside rewards, or remain in the fray as work hassles are encountered (Taris, Schreurs, & Schaufeli, 1999).

This study had several limitations. Firstly, a cross-sectional survey design was used, which makes it impossible to prove the causality of the obtained relationships. It is necessary to study the relationships between job demands, job resources and work engagement in a longitudinal design. Secondly, this study did not consider the role of burnout and its relationship with work engagement. Therefore, it was not possible to test the comprehensive model of burnout and work engagement.

## **RECOMMENDATIONS**

This study suggested that three aspects should be addressed to affect the work engagement of academics in higher education institutions, namely growth opportunities in the job, organisational support, and communion. In the first place, interventions should be made to ensure that academics have variety, learning opportunities and autonomy in their jobs. This is an important consideration in the current management culture in higher education institutions. In the second place, interventions should be implemented to ensure organisational support, including role clarity, good relationships with supervisors, communication, information and participation in decision making. Third, communion should be promoted, i.e. opportunities should be created for social support of academics.

There are several research issues that flow from this study and require attention in increasing understanding of work engagement and the usefulness of this concept (Rothmann & Storm, 2003). Further construct validity research is needed to establish more fully the factorial

validity of the UWES. None of the solutions could be regarded either as effectively confirming the authors' proposed three-subscale structure, or as an educate replication of the factor structures found in their studies (Schaufeli, Salanova, Gonzalez-Roma, & Bakker, 2002)

Until recently little research has been done regarding positive aspects of human behaviour in the work context. Too much attention has been paid to unhealthy and dysfunctional aspects. The focus should change towards the strengths of human beings in the work context. It is strongly recommended that future research investigate the relationships between work engagement and job resources in absenteeism of job demands. Longitudinal research should be conducted regarding the causal relationships between job demands, job resources and work engagement. Furthermore, the moderating effects of personality dispositions on work engagement should be investigated.

#### **Author's Note**

The material described in this article is based upon work supported by the National Research Foundation (Grant number 2053344).

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## CHAPTER 3

### CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

This chapter encompasses conclusions regarding the specific objectives. The limitations for the study are highlighted and recommendations are made for further studies.

#### 3.1 CONCLUSIONS

In this section, conclusions are drawn in terms of specific objectives.

##### 3.1.1 Conclusions in terms of specific theoretical objectives

A literature study was undertaken to conceptualise work engagement, job demands and job resources. Subsequently the following conclusions are drawn in terms of the theoretical objectives.

Work engagement is defined as a positive, fulfilling, work-related state of mind that is characterised by vigour, dedication, and absorption (Schaufeli, Salanova, González-Romá, & Bakker 2002). Rather than a momentary and specific state, engagement refers to a more persistent and pervasive affective-cognitive state that is not focused on any particular object, event, individual, or behaviour. *Vigour* is characterised by high levels of energy and mental resilience while working, the willingness to invest effort in one's work, and persistence even in the face of difficulties. *Dedication* refers to being strongly involved in one's work and experiencing a sense of significance, enthusiasm, inspiration, pride, and challenge. *Absorption* is characterised by being fully concentrated and happily engrossed in one's work, whereby time passes quickly and one has difficulties with detaching oneself from work.

According to Schaufeli and Bakker (2004) job demands are those physical, psychological, social, or organisational aspects of the job that require sustained physical and/or psychological (i.e. cognitive or emotional) effort and are therefore associated with certain physiological and psychological costs such as burnout. Job resources refer to those physical, psychological, social, or organisational aspects of the job that either/or reduce job demands and the associated physiological and psychological costs, are functional in achieving work

goals and stimulate personal, growth, learning and development.

An individual's work environment can be categorised in terms of two broad elements, namely job demands and job resources. Job demands refer to 'the things that have to be done' and include the physical, social or organisational aspects of the job that require sustained physical and mental effort. Job resources refer to those physical, social or organisational aspects that are in the first place necessary to achieve work goals, secondly to reduce job demands and lessen psychological costs and thirdly, to stimulate growth and development (Barkhuizen, 2004).

### **3.1.2 Conclusions in terms of specific empirical objectives**

Two recent studies using confirmatory factor analysis demonstrated the factorial validity of the UWES (Schaufeli, Bakker, Hoogduin, Schaap, & Kladler, 2001; Schaufeli Salanova, Gonzalez-Roma, & Bakker, 2002). Applied to the South African context, Rothmann and Storm (2003) obtained alpha coefficients of 0,78 for Vigour and 0,89 for Dedication in a sample of police workers. Both Barkhuizen and Rothmann (2005) and Jackson and Rothmann (in press) found that the UWES shows construct equivalence and construct validity for South African academic staff members and teachers respectively. Accordingly the Utrecht Work Engagement Scale (UWES) in this study was also found a reliable and valid measurement of work engagement for academic staff in South African higher education institutions. An item analysis was conducted on the UWES. Items 15, 16 and 17 were problematic. This could be due to misunderstanding of the words used in the items. An exploratory factor analysis of the UWES resulted in one factor, namely Work Engagement. This factor showed an acceptable alpha coefficient. Hypothesis 1, stating that the Utrecht Work Engagement Scale (UWES) is a reliable and valid measurement instrument for work engagement of academic staff in South African higher education institutions has been proven by finding the statement acceptable

To assess the relationships between work engagement, job demands and job resources among academic staff of South African higher education institutions, five factors were extracted on the JDRS, namely Organisational Support, Growth Opportunities, Communion, Overload and Job Insecurity. The scales showed acceptable reliabilities. Organisational Support, Growth Opportunities and Communion correlate positively with work engagement. Overload and Job

Insecurity correlate negatively. In this study job resources exclusively predict work engagement. Accordingly job demands are not able to predict work engagement. These findings are in line with those of Schaufeli and Bakker (2004).

In determining which job demands and job resources predict work engagement of academic staff in South African higher education institutions, a regression analysis was conducted. The results showed that Organisational Support predicts 19% of the variance in work engagement. Organisational Support includes the extent to which one can count on your supervisor when you come across difficulties, have the opportunity to discuss work problems with your supervisor and have clarity to whom you should address specific problems. It also includes how well you are get along with your supervisor and to which extent you feel appreciated and know what your supervisor thinks of your performance and what other people expect of you in your work as well as what your responsibilities are. Whether you are receiving sufficient information on the purpose and results of your work as well as other important issues within the institution are also experienced as organisational support. It includes the measurement of the ability to participate in decisions about the nature of your work, having a direct influence on your institution's decisions and whether the decision-making process of the institution is clear.

With the inclusion of growth opportunities, 46% of the variance in work engagement was explained. Growth opportunities include repeatedly doing the same things in your work, doing work that makes sufficient demands on your skills and capacities, having enough variety in your work, having a job which offers you opportunities for personal growth and development and offers you the possibility of independent thought and action, having the feeling that you can achieve something, participation in decisions about when a piece of work should be completed, receiving a good and sufficient salary to be able to live comfortably and progress financially and the opportunity to be promoted. This correlates with the work of Jackson and Rothmann (2004) who reported that job resources predicted work engagement in a South African context. Coetzer and Rothmann (2004) also found that the availability of resources increased the levels of engagement. Hypothesis 2 was aimed at determining whether job demands and job resources could predict the work engagement of academics. As expected, job resources were positively related to work engagement. However, job demands were not related to engagement.

In this study a regression analysis with engagement as dependent variable indicated that organisational support and growth opportunities in the job were the best predictors of work engagement. Job resources predicted 46% of the variance in work engagement, but only two job resources, namely organisational support and growth opportunities showed statistically significant regression coefficients.

### **3.2 LIMITATIONS**

This study had various limitations. A cross-sectional survey design was used limiting the ability to test causal assumptions regarding the engagement syndrome (Storm, 2002). Perhaps the biggest problem in conducting surveys is assuring a sufficiently high response rate. This study is also restricted to engagement without consideration of burnout.

Not all of the higher institutions in South Africa took part in the study. The sample size was one of the limitations. According to Kerlinger and Lee (2000), the largest possible sample size should always be used. The smaller the sample size the greater the error.

Due to a lack of relevant literature support is given to Rothmann (2003) in suggesting that more research is needed regarding the causes, effects and underlying process of burnout and work engagement for all occupational groups in South Africa.

Language could also be another limitation. The majority of respondents (74,4%) in this study were Afrikaans speaking. The fact that only an English version of the measuring instrument was used was indeed a language barrier to respondents and could account for some of the problematic items on the UWES.

An overlap of some of the items on the measurement instrument could have resulted in the one factor model, namely Engagement.

### **3.3 RECOMMENDATIONS**

Recommendations for the organisations and for future research are made in this section.

### **3.3.1 Recommendations for the organisation**

Management and academic staff should create a work environment where work engagement is supported. Engagement interventions enhance work life and should successfully promote the well-being of academic personnel.

Interventions may in the first place be directed at the provision of sufficient job resources in the working environment. By focussing on organisational support and giving growth opportunities to tertiary staff they are more likely to feel engaged towards their work. Jackson and Rothmann (2004) reported that job resources predicted work engagement, whereas job demands and a lack of job resources contributed to burnout.

### **3.3.2 Recommendations for future research**

Based on the results obtained in this study the following recommendations are made with regard to future research:

- More research is needed regarding the phrasing of the UWES as well as the conceptualisation of the dimensions.
- Future research should focus more on the specific predictors of engagement.
- Larger diverse sample sizes should be included in studies to overcome possible errors.
- In order to overcome the language barrier due to the multicultural context of South Africa, it is recommended that measuring instruments be translated into the 11 official languages recognised by the South African Constitution.
- Lastly, it is recommended that the levels of work engagement be assessed again after implementation of work engagement interventions focussed on organisational support and growth opportunities.

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