WORK WELLNESS AMONG SECONDARY SCHOOL TEACHERS IN THE GOLDFIELD REGION OF THE FREE STATE PROVINCE

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- The references as well as the editorial style as prescribed by the *Publication Manual (5th edition)* of the American Psychological Association (APA) were followed in this 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.

- The thesis is submitted in the form of research articles. The editorial style specified by the *South African Journal of Industrial Psychology* (which agrees largely with the APA style) is used, but the APA guidelines were followed in constructing tables.

PREFACE

Only a few people reach these heights, but only I had the privilege to master this with the help of the following special persons.

- My Creator.
- Dr. Jaco Pienaar for making my dream a reality.
- Dr. Jaco Pienaar for the statistical analyses.
- My wife, for your inspiration, motivation and love.
- My family, for bearing with me during this time, supporting and believing in me.
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TABLE OF CONTENTS

LIST OF TABLES

CHAPTER 4: RESEARCH ARTICLE 3

CHAPTER 5: RESEARCH ARTICLE 4

LIST OF FIGURES

ABSTRACT

Subject: Work wellness among secondary school teachers in the Goldfield district of the Free State province

Key terms: Burnout, engagement, stress, optimism, physical health, psychological health

The only constant thing in today's world is change. Change is everywhere, even in the education sector. The education system has undergone tremendous changes in the past 10 years. This includes several curriculum changes. Change always contributes to stress, which individuals in the education department are experiencing quite intensively, judging by the popular media. Stressful events may lead to ill-health and might negatively impact the workforce and the overall well-being of these educators.

The emergence of positive psychology has contributed to the increased research of well-being, rather than the negative antipode of illness, in relation to occupational stress. One of these positive aspects of well-being is work engagement, which is considered to be the opposite of burnout. Thus, describing burnout, engagement and stress is a first step in facilitating the work-related wellness of educators. Furthermore, individual dispositions that may act as resources or buffers in the handling of stress and burnout, facilitate engagement and protect educators' health are also of interest. To measure burnout, engagement, stress and health, it is important to use reliable and valid instruments. Various studies are available on the reliability and validity of the burnout and engagement scales, but it is rather limited for educators in the South African environment. Furthermore, little information exists regarding the causes and effects of work stress, health, burnout and engagement of educators in South Africa.

The first objective of this research was to standardise the Maslach Burnout Inventory-General Survey (MBI-GS) and the Utrecht Work Engagement Scale (UWES) for educators in the Goldfield region of the Northern Free State province. The second objective was to determine if biographical variables can be used to describe educators' burnout and engagement. The third objective of this research was to determine causes of stress among educators, and again to investigate the role of biographical differences. Lastly, the focus in this research fell on the determination of the role of optimism in predicting the health of educators in the Goldfield region of the Northern Free State province.

A cross-sectional survey design, in which a sample is drawn from a population at one point in time, was used to attain the research objectives. Participants were randomly selected from the total population of educators in the Goldfield region of the Northern Free State province. A sample of 469 educators was

used from the total population of 1014 (i.e. 46,25% of the total population). Schools in the Goldfields region of the Northern Free State province were randomly selected to participate in this research.

The MBI-GS, the UWES, the Educator Stress Questionnaire (which was developed by the author for the purpose of this research), the Health Subscales of the Asset, the LOT-R and a biographical questionnaire was administered. Descriptive statistics, Cronbach alpha coefficients, inter-item correlations, exploratory and confirmatory factor analyses, Pearson correlations, multivariate analysis of variance, one-way analysis of variance, t-tests, dummy coding and multiple-regression analyses with interaction terms were used to analyze the data.

Structural-equation modelling confirmed a three-factor model of burnout consisting of Exhaustion, Depersonalization and Professional Efficacy. All three factors showed acceptable internal consistencies for three main language groups. A three-factor model of engagement was also confirmed, consisting of Vigour, Dedication and Absorption. These scales also indicated acceptable reliability. Results of a second order factor analysis indicated that the work wellness of educators can be described as consisting of two dimensions. The Burnout dimensions of Exhaustion and Depersonalisation can be grouped together on one factor, while the Burnout dimension of Professional Efficacy can be grouped with the Engagement variables of Vigour, Dedication and Absorption.

Results showed that biographical variables that consist of the gender, marital status, home language, age and years work experience of educators could be used to describe educator burnout and engagement. It was found that Exhaustion could be predicted by gender. Educators who speak an African language scored lower than Afrikaans-speaking educators in terms of Exhaustion. Marital status could also be used to predict exhaustion. Educators between the ages of 37 and 46 measure lower on depersonalisation than educators between the ages of 22 and 30 years. Educators who have between 13 and 20 years of experience, have higher levels of depersonalisation than participants with 6 or less years of experience. Both English and African-language-speaking educators measure lower on Professional Efficacy than the Afrikaans language group. Language remains a significant predictor of Professional Efficacy. Educators who are older than 31 years of age measure higher on Professional Efficacy than those younger than 31 years of age. Professional Efficacy could be predicted among educators who are English speaking and/ or older than 31 years of age. Additionally, being married or divorced measure lower on Professional Efficacy when compared to their single counterparts. The eldest educators measure higher on Professional Efficacy. Female educators measure lower on Vigour than their male counterparts. Educators between the ages of 47 and 64 measure higher on dedication than educators between the age of 22 and 30 years. Married educators measured lower on dedication, when compared to single educators.

The ESQ, a measure of educators' occupational stress that consists of 48 items, was developed and administered. During analysis, 4 items were discarded due to non-loading, and a further 8 items were discarded due to significant secondary loadings. Five factors were extracted and were labelled Rewards and Participation, Support and Communication, Job Insecurity, Role Overload and Task Characteristics.

Furthermore, the biographical variables that were used to describe burnout and engagement among educators (language, age, gender, work experience and marital status), could also be used to describe educator stress. The various stress factors that were identified through the ESQ, could also be used to determine well-being among educators. This includes Support and Communication, Rewards and Participation, Role Overload, Job Insecurity and Task Characteristics.

In terms of predicting the physical and psychological health of educators, separate analyses were carried out for the burnout and engagement components. It was shown that that educators' home language, their experience of optimism, role overload and task characteristics predicts physical health, and home language, participants' levels of optimism, experiences of rewards and participation, support and communication, job insecurity, role overload and task characteristics predicts psychological health. Additionally, the interaction terms Professional Efficacy and Optimism, as well as the interaction between Vigour and Optimism, proved to be significant predictors of physical health. The interaction term of Depersonalisation and Optimism, as well as the interaction term of Support and Communication and Optimism, proved to be significant predictors of psychological health. Language was also shown to be a constant predictor of physical and psychological health, where educators speaking an African language experienced significantly better overall well-being than Afrikaans and English-speaking educators.

By way of conclusion, recommendations for future research and the education department are made.

OPSOMMING

Onderwerp: Werkswelstand onder skoolopvoeders in die Goudveldstreek van die Vrystaat Provinsie

Sleutelterme: Uitbranding, werksbegeestering, spanning, optimisme, fisiese gesondheid, psigiese gesondheid

Die enigste ding waarvan ons seker kan wees in vandag se onseker wêreld, is verandering. Verandering vind orals plaas, selfs in die onderwyssektor. Die onderwysstelsel het die afgelope tien jaar baie veranderinge ondergaan. Dit sluit verskeie kurrikulumveranderinge in. Veranderinge lei altyd tot spanning. As 'n mens na die populêre media kyk, wil dit voorkom of individue in die onderwysdepartement dan ook deeglik daarvan kan getuig. Spanningsvolle gebeurtenisse kan lei tot ongesondheid, en kan ook 'n negatiewe impak op die arbeidsmag, sowel as die algemene welstand van die opvoeders hê.

Die verskyning van positiewe sielkunde het bygedra tot die toename in navorsing oor werkswelstand, eerder as oor sy negatiewe antipode, naamlik ongesteldheid, as daar na werkspanning gekyk word. Een van hierdie positiewe aspekte van werkswelstand is werksbegeestering, wat as die teenoorgestelde van uitbranding beskou word. Die eerste stap in die fasilitering van werkswelstand onder onderwysers is dan ook die beskrywing van uitbranding, werksbegeestering en spanning. Voorts is individuele disposisies wat dalk as hulpbronne of buffers in die hantering van spanning en uitbranding kan dien, werksbegeestering kan fasiliteer en opvoeders se gesondheid kan beskerm, ook van belang. Dit is belangrik om geldige instrumente te gebruik in die meting van uitbranding, werksbegeestering, spanning en gesondheid. Verskeie studies oor die betroubaarheid en geldigheid van uitbrandings- en werkbegeesteringskale is beskikbaar, maar dit is taamlik beperk vir opvoeders in die Suid-Afrikaanse omgewing. Daar is ook min inligting beskikbaar oor die oorsake en gevolge van werkspanning, gesondheid, uitbranding en werksbegeestering van opvoeders in Suid-Afrika.

Die eerste doelwit van hierdie navorsing was om die Maslach Uitbrandingsvraelys - Algemene Opname (MBI-GS) en die Utrecht Werkbegeesteringskaal (UWES) vir opvoeders in die Goudveldstreek van die Noordelike Vrystaatprovinsie te standaardiseer. Die tweede doelwit was om te bepaal of biografiese veranderlikes gebruik kan word om die uitbranding en werksbegeestering van opvoeders te beskryf. Die derde doelwit van hierdie navorsing was om die oorsake van spanning onder opvoeders te bepaal, en om weer die rol van biografiese verskille te ondersoek. Laastens het die navorsing gefokus op die rol van optimisme in die voorspelling van die gesondheid van opvoeders in die Goudveldstreek van die Noordelike Vrystaatprovinsie.

'n Dwarsdeursnit-opname-ontwerp, waar 'n steekproef uit 'n bevolking op een tydstip geneem word, is gebruik om die navorsingsdoelwitte te bereik. Deelnemers is ewekansig gekies uit die totale bevolking van die opvoeders in die Goudveldstreek van die Noordelike Vrystaatprovinsie. 'n Steekproef van 469 opvoeders is uit die totale bevolking van 1014 (d.w.s. 46,25% van die totale bevolking) geneem. Skole in die Goudveldstreek van die Noordelike Vrystaatprovinsie is ewekansig gekies om aan die navorsing deel te neem.

Die MBI-GS, die UWES, 'n opvoederspanningsvraelys (wat deur die outeur vir die doeleindes van hierdie navorsing ontwikkel is), die gesondheidsubskale van ASSET, die LOT-R en 'n biografiese vraelys is geadministreer. Beskrywende statistiek, Cronbach-alfa-koëffisiënte, inter-item korrelasies, verkennende en bevestigende faktoranalises, Pearson korrelasies, meerveranderlike variansie-analise, eenrigting variansie-analise, t-toetse, "dummy" kodering en veelvuldige regressie-analise met interaksieterme is gebruik om die data te analiseer.

Strukturele vergelykingsmodellering het 'n driefaktormodel van uitbranding wat bestaan uit Uitputting, Depersonalisering en Professionele Doeltreffendheid bevestig. Al drie faktore het aanvaarbare interne konsekwentheid vir die drie hooftaalgroepe getoon. 'n Driefaktormodel van werksbegeestering, wat bestaan uit energie, toewyding en absorpsie, is bevestig. Hierdie skale het ook aanvaarbare betroubaarheid getoon. Die resultate van 'n tweede orde faktoranalise het die werkswelstand van opvoeders op so 'n wyse beskryf dat dit uit twee dimensies bestaan. Die uitbrandingsdimensies van Uitputting en Depersonalisering kan op een faktor saam gegroepeer word, en die uitbrandingsdimensie van Professionele Doeltreffendheid kan saam met die werksbegeesteringsveranderlikes van Energie, Toewyding en Absorpsie gegroepeer word.

Resultate het gewys dat biografiese veranderlikes soos die geslag, huwelikstatus, huistaal, ouderdom en jare werkservaring van opvoeders gebruik kan word om uitbranding en werksbegeestering onder opvoeders te beskryf. Daar is bevind dat uitputting deur geslag voorspel kan word. Opvoeders wat Afrikataalsprekers is, het laer punte ten opsigte van uitputting aangeteken as Afrikaanssprekende opvoeders. Huwelikstatus kan ook gebruik word om uitputting te voorspel. Opvoeders tussen die ouderdomme van 37 en 46 meet laer op depersonalisering as opvoeders tussen die ouderdomme van 22 en 30 jaar. Opvoeders wat tussen 13 en 20 jaar werkservaring het, het hoër vlakke van depersonalisering as deelnemers met 6 of minder jare van ervaring. Engelssprekende en Afrikataalsprekende opvoeders meet laer op Professionele Doeltreffendheid as die Afrikaanssprekende groep. Taal bly 'n belangrike voorspeller van Professionele Doeltreffendheid. Opvoeders wat ouer as 31 jaar is, meet hoër op Professionele doeltreffendheid as díe wat jonger as 31 is. Professionele Doeltreffendheid kon voorspel

word onder opvoeders wat Engelssprekend en/ of ouer as 31 jaar is. Opvoeders wat getroud of geskei is meet ook laer op Professionele Doeltreffendheid as díe wat enkel is. Die oudste opvoeders meet hoër op Professionele Doeltreffendheid. Vroulike opvoeders meet laer op Energie as hulle manlike eweknieë. Opvoeders tussen die ouderdomme van 47 en 64 meet hoër op toewyding as onderwysers tussen die ouderdomme van 22 en 30 jaar. Getroude opvoeders meet laer op toewyding as enkel opvoeders.

Die ESQ, 'n vraelys wat die werkspanningsvlakke van opvoeders meet, is ontwikkel en geadministreer. Die vraelys bestaan uit 48 items, maar tydens die analiseringsproses is 4 items verwyder aangesien dit nie gelaai het nie, en nog 8 items is verwyder aangesien dit op meer as een item gelaai het. Vyf faktore is geëkstraheer, en is geïdentifiseer as Belonings en Deelname, Ondersteuning en Kommunikasie, Werksonsekerheid, Rol-oorlading en Taakeienskappe.

Die biografiese veranderlikes wat gebruik is om die uitbranding en werksbegeestering te beskryf (taal, ouderdom, geslag, werkservaring en huwelikstatus), kan ook gebruik word om die werkspanning onder opvoeders te beskryf. Die spanningsfaktore wat deur die ESQ geïdentifiseer is, kan ook gebruik word om die werkswelstand van opvoeders te bepaal. Hierdie faktore sluit Ondersteuning en Kommunikasie, Belonings en Deelname, Rol-oorlading, Werksonsekerheid, en Taakeienskappe in.

Om die fisiese en psigiese gesondheid van opvoeders te voorspel, is die uitbrandings- en werksbegeesteringskomponente afsonderlik geanaliseer. Die resultate het getoon dat die huistaal van opvoeders, hul ervaring van optimisme, rol-oorlading en taakeienskappe fisiese gesondheid voorspel, terwyl huistaal, deelnemers se vlakke van optimisme, hul ervaring van belonings en deelname, ondersteuning en kommunikasie, werksonsekerheid, rol-oorlading en taakeienskappe hul psigiese gesondheid voorspel. Dit is ook bewys dat die interaksieterme, Professionele Doeltreffendheid en Optimisme, sowel as die interaksie tussen Energie en Optimisme, belangrike voorspellers van fisiese gesondheid is. Dit is verder bewys dat die interaksieterme van Depersonalisering en Optimisme, sowel as die interaksieterme van Ondersteuning en Kommunikasie en Optimisme, belangrike voorspellers van psigologiese gesondheid is. Verder is dit aangetoon dat taal 'n konstante voorspeller van fisiese en psigiese gesondheid is. Opvoeders wat 'n Afrikataal praat, ervaar byvoorbeeld aansienlik meer algemene werksweerstand as Afrikaans- en Engelssprekende opvoeders.

Ter afsluiting word aanbevelings vir toekomstige navorsing en die onderwysdepartement aan die hand gedoen.

CHAPTER 1

INTRODUCTION

This thesis focuses on the work wellness of educators in the Goldfield District of the Northern Free State Province. Work wellness is seen to encompass aspects such as burnout, engagement, work stress and individual level variables, such as optimism, which may act as moderators in the stress process.

In this chapter, the problem statement is discussed, whereupon the research objectives are set out. Following this, the research method is discussed and the division of chapters is given.

1.1 PROBLEM STATEMENT

"Its 2pm on Friday afternoon. I straighten the desks in my classroom, ignoring the swearwords carved into them. It's home time at last – but before Monday morning I must mark 130 Matric exam papers" (Cilliers, 2004).

Statements like the above accentuate the amount of pressure educators are under every day. They experience the pressures of change and transformation very directly because of all the new rules and regulations, which makes work in the education sector even more complex (Greenberg, 1984). Kyriacou (as cited in Greenberg, 1984) defines stress among educators as the experience of unpleasant emotions like anger, frustrations, anxiety, depression and tension as a result of their work. Stress among educators has been recognised as a global concern in recent years (Kyriacou, 2001). International research and surveys regarding educator stress and the factors that are responsible for it, accumulate daily (Joseph, 2000). According to Borg (1990), one third of all the educators that were surveyed in various studies, indicated that teaching was highly stressful. Although South Africa has one of the highest rates of government educational investment in the world (almost 6% of the gross domestic product), the quality of education remains a big problem (World Economic Forum, 2002). Acts of racism, violence, antisocial behaviour, learner boycotts and educator strikes are some of the problems that are characteristic of South African schools.

According to Mesthrie (1999), increasing changes in education and society contribute to the stress experienced by educators. Therefore they have to make a variety of changes in their personal and

professional lives. Mesthrie highlights the following changes in the South African environment: population increases, diversity in school populations, increases in cost of living, crime and its effect on student behaviour, conditions of service, new rules and regulations from the Department of Education, curriculum changes, performance appraisal systems and demands of unions. One of the changes in the curriculum is the institution of so-called Outcomes Based Education (OBE), where the educator is required to work as fast or slow as the learners. This contributes further to stress among educators because they need to work at different paces in order to accommodate different students.

There is a lack of recent research regarding stress in the Free State Province, but in a study that was done in 1989, Marais found a high level of stress among educators. He also noted that there are varieties of stressors that lead to educator burnout, like the pressure of the workload and low salaries (Marais, 1989). Typically, educators enter the education profession with high expectations, a vision for the future and a mission to help learners and to teach them. However, these soon get hindered by a lack of discipline, shortage of professional help, insufficient financial support, pressure from unions, education departments and school governing bodies, a lack of community support, the poor image of the profession and role ambiguity (Gold & Roth, 1993). These factors in turn could lead to disillusionment and eventually even burnout (Mesthrie, 1999).

In a classic definition, stress is defined as a non-specific response of the human body to any demand that is forced on it (Selye, 1976). Van Graan (1985) defines stress as an energy-demanding negative emotional experience that usually follows on a stimulus that is cognitively evaluated and interpreted as a threat. Gold and Roth (1993) describes stress as a condition of disequilibrium with the intellectual, emotional and physical state of the individual; it is generated by one's perceptions of the situation, which result in physical and emotional reactions. It can be either positive or negative, depending upon one's interpretation. More recently, Dunham (1995) defined stress as the physical, mental or emotional reaction resulting from an individual's response to environmental tensions, conflicts and pressure. The person that is experiencing stress, as well as the people that are close to him/her, can clearly notice a person's reaction to stress. If the reaction is of a more subtle nature, the individual may be unaware of the effects of stress until an illness or disorder surfaces (Mesthrie, 1999).

Gold and Roth (1993) have organised the causes of educator stress into two categories, namely professional and personal stressors. Professional stressors include disruptive students, excessive paperwork, complex scheduling, a burdensome workload, lack of mobility, environmental pressures, administrative entanglement, and situational factors such as role conflict and role ambiguity. The difficulty in defining the duties of

educators can also be stressful. It may contribute to the lack of a sense of personal accomplishment among educators, which further diminishes their feelings of success. Five major personal causes of stress (or stressors) have been identified. This includes health, relationship and financial problems on the one hand, and recreational and living conditions on the other.

The causes of stress have enjoyed more and more attention in recent years among human resource managers, researchers and organizational leaders (Carrell, Kuzmits, & Elbert, 1992). The reason for this interest in the problem of stress in the workplace is the resultant effects of this problem for organisations (Carrell et al., 1992). These effects include low productivity, increased absenteeism and turnover, and medical ills such as alcoholism and cardiovascular problems. A high level of stress could also lead to burnout (Byrne, 1999; Friedman, 1995).

Burnout is a syndrome that is characterized by emotional exhaustion, depersonalisation and lowered feelings of personal capability that occurs in individuals who work with people. According to Maslach (1986), burnout is a response to chronic emotional stress that is developed when working with people, especially those that have problems. Pines and Aronson (1988) define burnout as a state of physical, emotional and psychological exhaustion that is caused by continual involvement in situations that are emotionally demanding. The emotional demands are mostly caused by a combination of high expectations and chronic situational stress. Various symptoms are associated with burnout, like physical exhaustion, the feeling of helplessness and negative attitudes towards people around you. Schaufeli and Enzmann (1998, p. 36) define burnout as "a persistent, negative, work-related state of mind in 'normal' individuals that is primarily characterised by exhaustion, which is accompanied by distress, a sense of reduced effectiveness, decreased motivation, and the development of dysfunctional attitudes and behaviours at work". Burnout is recognised as a serious threat, especially for people who work with other people (Van Dierendonck, Schaufeli & Buunk, 1993).

Burnout is an increasing problem in the teaching profession (Mesthrie, 1999). Initially educators experience personal rewards during their training and the first few months of teaching. Soon, however, they are faced with criticism, overcrowded classrooms, the impact of educator shortages, illness, lack of mobility, lack of financial and emotional rewards, difficult educator assignments, poor working conditions, disruptive students, difficult administrators, lack of respect, little or no social support, and other negative conditions (Gold & Roth, 1993). Many educators feel angry and discouraged when they are faced with these types of situations. If conditions do not improve and they do not receive support, educators begin to feel a sense of

hopelessness, lose their self-esteem and depression sets in. Ultimately, this leads to disillusionment and burnout (Gold & Roth, 1993). A high incidence of burnout has been observed in education managers and educators in South Africa because of the introduction of Curriculum 2005 and Outcomes Based Education (National Commission on Curriculum Research and Development, 2000; Motseke, 2000).

Studies have shown that the possible causes of burnout can be categorised into organisational, biographical and personality factors. The organisational factors that can contribute to burnout include work overload (Rantanen, 1998), role conflict and role ambiguity (Meltzer & Nord, 1981), a lack of feedback, and career concerns such as a lack of career progress (Cooper, Dewe, & O'Driscoll, 2001).

The biographical factors that could contribute to burnout include age, work experience and gender (Marais, 1989). Burnout is said to be more prevalent among younger workers and negatively related to work experience. Kunzel and Schutte (1986) explain the prevalence of burnout among the younger work force and less experienced workers in terms of reality shock. Cherniss (1980), however, relate it to identity crisis due to unsuccessful occupational socialisation. Maslach, Jackson and Leiter (1996) have observed that symptoms of burnout reduce with growing age or work experience. Women are prone to emotional exhaustion, while men are prone to depersonalisation. Schaufeli and Enzmann (1998) tend to explain this in terms of sex-role-dependent stereotypes. Men typically hold instrumental attitudes, whereas women are more emotionally responsive, and seem to disclose emotional and health problems more easily. Again, due to additional responsibilities at home, working women carry higher workloads than men. Schaufeli and Enzmann (1998) are of the opinion that unmarried people, especially men, seem to be more prone to burnout when compared with those who are married. Cash (1988) has found that people with a higher level of education tend to be more prone to burnout than less educated ones. According to Schaufeli and Enzmann (1998), this could be attributed to the higher expectations of the educated workers. Also, more educated workers more often tend to hold higher positions of responsibility.

According to Schaufeli and Enzmann (1998), personality traits of employees also correlate with burnout. The tendency to perceive events and circumstances as stressful, ways of coping with them, and the way in which failure in coping is dealt with, depend in part on the dispositional characteristics of a person. These characteristics involve one's beliefs about the world and ways of dealing with it (Semmer, 1996).

A new trend recently emerged in burnout research (Maslach, Schaufeli, & Leiter, 2001). The emphasis in burnout research seems to have shifted towards its positive pole: *job engagement*. Researchers recently

extended their interest to the positive pole of employees' well-being, instead of looking exclusively at the negative pole. Seen from this perspective, burnout can be rephrased as an erosion of engagement with the job (Schaufeli, Salanova, & Bakker, 2001). This development indicates an emerging trend towards a 'positive psychology' that focuses on human strengths and optimal functioning, rather than on weaknesses and malfunctioning (Seligman & Csikszentmihalyi, 2000).

Based on this theoretical reasoning, and after in-depth interviews were conducted with *engaged* employees, Schaufeli and his colleagues defined engagement as a positive, fulfilling, work-related state of mind that is characterised by vigour, dedication, and absorption. The term engagement does not refer to a momentary and specific state, but rather to a more persistent and pervasive affective-cognitive state that is not focused on any particular object, event, individual or behaviour. Work engagement consists of the following dimensions (Schaufeli, Salanova, González-Roma & Bakker, 2002):

- **Vigour** is characterised by high levels of energy and mental resilience while working, the willingness to invest effort in one's work, not being easily fatigued, and persistence even in the face of difficulties.
- **Dedication** is characterised by deriving a sense of significance from one's work, feeling enthusiastic about and proud of one's job, and feeling inspired and challenged by 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.

Educators, like all people, have physical and emotional needs that do not cease to exist at work. If educators are to do their professional best, their changing physical and emotional needs must be accommodated. Parken (as cited in Kelly & Colquhoun, 2003) argues that a comprehensive approach to staff health and well-being will include the promotion of and support for healthy life-style choices. A good programme should encourage a personal balance between the physical, mental and emotional self. Mental health in the general population is deteriorating at an alarming rate. This is also the case for educators (Gold & Roth, 1993). The impact of stressors on mental and physical health has been studied with consistent findings. Elevated scores on burnout measures have been associated with higher levels of perceived role conflict and role ambiguity, lessened self-actualised concerns (Friedman, 1995), and a lack of perceived support (Pierce & Molloy, 1998) among educators.

There is enough empirical support in the supporting literature concerning the impact that educators' job characteristics have on their health and satisfaction. A part of the occupational stress literature has also

focused on individual differences, such as the use of coping strategies. Seidman and Zager (1991) found that physical and psychological complaints were associated with educators' career satisfaction, ability to cope with job-related stress, perceived administrative support and attitudes toward students. Studying job characteristics that might be associated with strain in the current sample is also an envisioned outcome of this study.

Reker and Wong (1988) have proposed that the cognitive appraisals of stressful situations and the coping patterns of optimistic individuals differ from those of individuals who are pessimistic or lacking in optimism. They further demonstrated that optimists, as compared with pessimists, appraise stressful situations in a more positive light and make more extensive use of a variety of coping styles. By contrast, persons lacking in optimism experience greater negative stress and use more restricted patterns of active withdrawal to cope with anticipated stressful events. Thus, optimism as a personality trait serves to moderate the psychological effects of stress, as reflected in physical symptoms, loss of self-esteem and burnout (Murphy, 2001).

From the problem statement set out above it is clear that stress and burnout could be a significant problem for educators and given the situational complexities, especially in South Africa. No recent research regarding the levels of stress and burnout of educators in the Free State Province has been done, although this province already presented significant levels of both in the late eighties (Marais, 1989). A lot of political and educational transformation has taken place in the country since the previous study was done. The current research can thus contribute to the scientific body of knowledge by not only re-evaluating current levels of stress and burnout, but also by studying the effects of positive factors such as engagement and optimism.

The following research questions can be derived from the problem statement:

- Can a model of work wellness be developed for educators in the Goldfield Region of the Northern Free State Province that proves valid and reliable for all language groups?
- Which biographical variables can be used to describe the burnout and engagement of educators in the Goldfield Region of the Northern Free State Province, and what differences exist regarding the burnout and engagement of different language groups?
- What are the most important occupational stressors of educators in the Goldfield Region of the Northern Free State Province, and how does this compare to previous international and national research?

- Can the health of educators be predicted by occupational stress, burnout and engagement, while also investigating the moderating effect of optimism as individual-level variable in the Goldfield Region of the Northern Free State Province?
- Can recommendations be made for future research and to prevent and manage stress and the health of educators in the Goldfield Region of the Northern Free State Province?

1.2. AIM OF THE RESEARCH

The research aims are divided into a general aim and specific objectives.

1.2.1 General aim

The general aim of this study is to establish the relationship between burnout, engagement, job stress and the physical and psychological health of educators in the Goldfield Region of the Northern Free State Province.

1.2.2 Specific objectives

The specific research objectives are as follows:

- To develop a model of work wellness for educators in the Goldfield Region of the Northern Free State Province that proves valid and reliable for all language groups.
- To determine if biographical variables can be used to describe burnout and engagement of educators in the Goldfield Region of the Northern Free State Province, and if differences exist regarding the burnout and engagement of different language groups.
- To determine what the most important occupational stressors of educators in the Goldfield Region of the Northern Free State Province are, and how this compares to previous international and national research.
- To determine if the physical and psychological health of educators could be predicted by occupational stress, burnout and engagement, while also investigating the moderating effect of optimism as individual-level variable in the Goldfield Region of the Northern Free State Province.
- To make recommendations for future research and to prevent and manage stress, burnout, engagement and the health of educators in the Goldfield region of the Northern Free State province.

1.3 RESEARCH METHOD

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

1.3.1 Literature review

The literature review focuses on job stress, burnout and engagement, the relationship between burnout and engagement, and the moderating effect of optimism.

The following databases have been consulted:

- Library catalogues
- Academic Search Lists
- Internet journals
- International journals
- RGN Nexus: current and completed research
- PsychINFO

1.3.2 Empirical study

The empirical study consists of the research design, participants, measuring battery and the statistical analysis.

1.3.3 Research design

A cross-sectional survey design (Shaughnessy & Zechmeister, 1997) will be used to achieve the research objectives. This design allows for the description of a population at a specific point in time, and can thus be used to indicate the current levels of stress, burnout, engagement and optimism of participants (Shaughnessy & Zechmeister, 1997).

1.3.4 Participants

Participants will be randomly selected from the total population of educators in the Goldfield Region of the Northern Free State Province. The formula proposed by Kerlinger and Lee (2000) was used to determine the sample size for this study:

$$n' = \frac{n}{1 + \frac{n}{N}}$$

and

$$n = \frac{z^2 \times SD^2}{d^2}$$

where n' = estimated sample size; n = the estimated sample size using the formula; N = the size of the population; z = standard score corresponding to the specified probability of risk; SD = the standard deviation of the population, and d = the specified deviation.

The same values for z, SD and d as for previous studies of studies of burnout in South Africa (e.g. Storm & Rothmann, 2003) were used in the current research. Random selection will also be used, since this is important if we wish to draw accurate conclusions about the entire group of interest (Spector, 2000).

1.3.5 Measuring battery

Six measuring instruments will be used in the study. The Maslach Burnout Inventory-General Survey or MBI-GS (Schaufeli, Leiter, Maslach, & Jackson, 1996), the Utrecht Work Engagement Scale or UWES (Schaufeli et al., 2002), the *Life Orientation Test - Revised* or LOT-R (Scheier, Carver, & Bridges, 1994), The Health Subscales of ASSET, which stands for 'An Organisational Stress Screening Evaluation Tool' (Cartwright & Cooper, 2002), a measure of educator stress, the Educator Stress Questionnaire or ESQ (to be developed by the author), and a biographical questionnaire will be administered to attain the research objectives.

A biographical questionnaire will be administered that will request participants to supply information about their age, qualifications, years of experience, job level, type of contract, gender, marital status, home

language and the presence of any chronic illnesses. They were also asked whether they intend to quit the profession, consider themselves to have the basic equipment and skills to perform their work successfully, belong to a union, and have access to stress management and stress counselling services at the schools where they work.

An adapted version of the *Maslach Burnout Inventory – General Survey (MBI-GS)* (Schaufeli et al., 1996) was used to measure respondents' relationships with their work. The MBI-GS has three subscales: Exhaustion (Ex) (five items; e.g. "I feel used up at the end of the workday"), Cynicism (Cy) (five items; e.g. "I have become less enthusiastic about my work") and Professional Efficacy (PE) (six items; e.g. "In my opinion, I am good at my job"). Together the subscales of the MBI-GS provide a three-dimensional perspective on burnout. Test-retest reliabilities after one year were 0.65 (Exhaustion), 0.60 (Cynicism) and 0.67 (Professional Efficacy) (Schaufeli et al., 1996). All items are scored on a 7-point frequency rating scale ranging from 0 ("never") to 6 ("daily"). High scores on Ex and Cy, and low scores on PE are indicative of burnout. Depersonalisation (from the *MBI-Health Services Survey*, Maslach & Jackson, 1986) describes an unfeeling and impersonal response towards recipients of one's care or service. Although the Depersonalisation and Cynicism constructs can be said to be related, Depersonalisation presents a more specific interpersonal focus than Cynicism, which refers to a general attitude of cynicism regarding work, the employing organisation, colleagues, or the recipients of ones' service. The MBI-GS was found to be psychometrically sound in the Goldfield region of the Free State Province (Van Wyk, 2006a). Studies on construct equivalence have also indicated ample equivalence for these three dimensions of burnout in the Goldfield region (Pienaar & Van Wyk, 2006).

The *Utrecht Work Engagement Scale* or *UWES* (Schaufeli et al., 2002) will be used to measure the levels of engagement. Although work engagement is conceptually seen as the positive antithesis of burnout, it is operationalised in its own right. Work engagement is a concept that includes three dimensions: Vigour, Dedication and Absorption. Engaged workers are characterised by high levels of vigour and dedication, and they are immersed in their jobs. It is an empirical question whether engagement and burnout are endpoints of the same continuum or if they are two distinct but related concepts. The UWES is scored on a seven-point frequency rating scale, varying from 0 ("never") to 6 ("always"). The alpha coefficients for the three sub-scales varied between 0,68 and 0,91 (Storm & Rothman, 2003b). The alpha coefficient could be improved by eliminating a few items without substantially decreasing the scale's internal consistency.

The Life Orientation Test-Revised (LOT-R) (Scheier et al., 1994), a ten-item measure, will be used to measure dispositional optimism. Six items contribute to the optimism score and four items are fillers. The original Life Orientation Test (Scheier & Carver, 1985) was amended to the LOT-R after a two-factor structure (optimism and pessimism) was questioned (Harju & Bolen, 1998). Follow-up analysis have demonstrated a one-factor structure, indicating that the LOT-R is measuring a continuum of high, average and low optimism/pessimism (Scheier et al., 1994). The LOT-R is measured on a five-point Likert Scale, ranging from 5 (I strongly agree to) I (I strongly disagree). The LOT-R was found to have adequate internal consistency (Cronbach's alpha = 0,78) and excellent convergent and discriminant validity (Scheier et al., 1994). Based on a sample of 204 college students, Harju and Bolen (1998) obtain a Cronbach alpha coefficient of 0,75.

The Health Subscales of ASSET, which stands for 'An Organisational Stress Screening Evaluation Tool', were developed by Cartwright and Cooper (2002) to assess the respondents' level of health. The Health subscales consist of 18 items arranged on two subscales: Physical health and Psychological well-being. All items on the Physical-health subscale relate to physical symptoms of stress. The role of this subscale is to give an insight into physical health, not an in-depth clinical diagnosis. The items listed on the Psychological-well-being subscale are symptoms of stress-induced mental ill health. Johnson and Cooper (2003) found that the Psychological-well-being subscale has good convergent validity with an existing measure of psychiatric disorders, the General Health Questionnaire or GHQ-12 (Goldberg & Williams, 1988).

1.3.6 Statistical Analysis

The AMOS-program (Arbuckle, 1997) will be used to carry out structural-equation modelling. Furthermore, the SPSS-program (SPSS, 2005) will be used to carry out statistical analysis regarding the reliability and validity of the measuring instruments, descriptive statistics, and correlation coefficients. AMOS was used to assess model fit.

Cronbach alpha coefficients, inter-item correlation coefficients and factor analysis will be used to assess the reliability and validity of the measuring instruments (Clark & Watson, 1995). Descriptive statistics (e.g. means, standard deviations, range, skewness and kurtosis) and inferential statistics will be used to analyse the data. A cut-off point of $p = 0, 05$ will be set for the statistical significance of the results. Effect sizes (Cohen, 1988) will be used to decide on the practical significance of the findings. Pearson product-moment correlation coefficients will be used to specify the relationships between the variables. A cut-off point of 0,30

(medium effect, Cohen, 1988) will be set for the practical significance of correlation coefficients. Analysis of variance will be used to determine differences between groups.

Fit of the hypothesised burnout and engagement constructs to the data are tested empirically for goodness of fit. The χ^2 and several other goodness-of-fit indices summarise the degree of correspondence between the implied and observed covariance matrices. Jöreskog and Sörborn (1993) suggest that the χ^2 value may be considered more appropriate as badness-of-fit measure, rather than a goodness-of-fit measure in the sense that a small χ^2 value is indicative of good fit. However, because the χ^2 statistic equals $(N - 1)F_{min}$, this value tends to be substantial when the model does not hold and the sample size is large (Byrne, 1999). A large χ^2 relative to degree of freedom indicates a need to modify the model to fit the data better. Researchers have addressed the χ^2 limitations by developing goodness-of-fit indices that take a more pragmatic approach to the evaluation process. One of the first fit statistics to address this problem was the χ^2/degree of freedom ratio (CMIN/*df*) (Wheaton, Muthèn Alwin, & Summers, 1977). These criteria, commonly referred to as "subjective" or "practical" indices of fit, are typically used as adjuncts to the χ^2 statistic.

The Goodness-of-Fit Index (GFI) indicates the relative amount of the variance/co-variance in the sample predicted by the estimates of the population. It usually varies between 0 and 1 and a result of 0,90 or above indicates good model fit. In addition, the Adjusted Goodness-of-Fit Index (AGFI) will be given. The AGFI is a measure of the relative amount of variance accounted for by the model, corrected for the degrees of freedom in the model relative to the number of variables. The GFI and the AGFI can be classified as absolute indices of fit because they basically compare the hypothesised model with no model at all (Hu & Bentler, 1995). Although both indices range from zero to 1,00, the distribution of the AGFI is unknown; therefore no statistical test or critical value is available (Jöreskrog and Sörborn, 1986).

The Normed Fit Index (NFI) will be used to assess the global model fit. The NFI represents the point at which the model being evaluated falls on a scale running from a null model to perfect fit. This index is normed to fall on a 0-to-1 continuum. Marsh, Balla and Hau (1996) suggested that index is relatively sensitive to sample sizes. The Comparative Fit Index (CFI) represents the class of incremental fit indices in that it is derived from the comparison of a restricted model (i.e., one in which structure is imposed on the data) with that of an independence (or null) model (one in which all correlations among variables are zero) in the determination of goodness of fit. The Tucker-Lewis Index or TLI (Tucker & Lewis, 1973) is a relative measure of co-variation, explained by the model that is specifically developed to assess factor models. For

these fit indices, it is more or less generally accepted that a value of less than 0,90 indicates that the fit of the model can be improved (Hoyle, 1995).

To overcome the problem of sample size, Browne and Cudeck (1993) suggested using the Root Mean Square Error of Approximation (RMSEA) and the 90% confidence interval of the RMSEA. The RMSEA estimates the overall amount of error; it is a function of the fitting function value relative to the degrees of freedom. The RMSEA point estimate should be 0,05 or less and the upper limit of the confidence interval should not exceed 0,80. Hu and Bentler (1999) suggested a value of 0,06 to be indicative of good fit between the hypothesised model and the observed data. Researchers recently elaborated on these cut-off points and noted that RMSEA values ranging from 0,08 to 0,10 indicate mediocre fit, and those greater than 0,10 indicate poor fit (MacCallum, Browne, & Sugawara, 1996)

When multiple (more than two) categorical variables are used as a predictor, a process of dummy coding will be used. By using dummy coding, one can represent groups of people using only zeros and ones. This is done by creating several variables. Regarding gender, marital status and home language, the distribution as indicated by participants was used to create categories. Since too few participants indicated their status as 'separated' or 'remarried', they were discarded for this analysis. Regarding participants' age and years of service, categories were formed based on the frequency distribution of the variables. For each category, the total sample was divided into four groups in order to create four roughly equal quarter categories. When using dummy variables in a regression analysis, one group is always used as the referent. Thus, groups are not constantly compared to each other, but all groups are rather compared to one other (Cohen & Cohen, 1983).

The main and interactive effects of optimism will be tested using hierarchical multiple regression analysis. Demographic characteristics will be controlled for in the first step. Job stress, burnout or engagement, and optimism variables will be entered in a second step of the regression. Interaction terms of burnout or engagement and job stress with the optimism variable will be entered in the third step to test for the hypothesized moderating effect of optimism on the relation between job stress, burnout, engagement and health behaviours. Following the procedures described by Aiken and West (1991), the predictor variables will be centred.

1.4. RESEARCH PROCEDURE

A cross-sectional survey design will be used to attain the research objectives. The specific design is the cross-sectional design, where a sample will be drawn from a population at one point in time (Shaughnessy & Zechmeister, 1997). Schaufeli and Enzmann (1998) criticized the use of this design in burnout research, and recommend that experiments and longitudinal studies should be used when possible. The obvious advantage of the cross-sectional approach is time, with the shortcoming of cohort effects. A cohort is a group of people born at about the same time. Yet, if different cultural or age groups are compared, they do not only differ in terms of ethnicity or chronological age, but also in terms of the environments in which they were raised (Goodwin, 2002). Cross-sectional designs are also appropriate for validation studies.

Participants will be randomly selected from the total population of educators in the Goldfield region of the Northern Free State province. Schools in the Goldfields region of the Northern Free State Province will be randomly selected from an alphabetical list of school names, and all educators at said schools will be asked to complete the questionnaire. Completed questionnaires will be given to the principals, from whom the questionnaires will be collected at a pre-determined date. The Director-General of the Free State Department of Education granted permission to conduct the study. Schools will be randomly selected, since this is important in order to draw accurate conclusions about the entire group of interest (Spector, 2000).

1.5 DIVISION OF CHAPTERS

Chapters in this thesis will be divided as follows:

Chapter 1: Introduction

Chapter 2: A Work-Wellness Model for secondary school educators in the Goldfield Region of the Northern Free State Province.

Chapter 3: Biographical differences regarding burnout and engagement among secondary school educators in the Goldfield Region of the Northern Free State Province.

Chapter 4: Occupational stress among secondary school educators in the Goldfield Region of the Northern Free State Province.

Chapter 5: The role of optimism in predicting the health of secondary school educators in the Goldfield Region of the Northern Free State Province.

Chapter 6: Conclusions, recommendations and limitations.

1.6 CHAPTER SUMMARY

In this chapter, the overall perspective of this research project is presented. The scientific and research objectives and the research methodology, as well as the population and gathering of data are explained. Chapter 1 contributes to the general understanding of the research need and the research problems. Some perspectives from previously conducted studies are taken from the literature. Lastly, an outline of the different chapters in this study is given.

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CHAPTER 2

ARTICLE 1

A WORK-WELLNESS MODEL FOR SECONDARY SCHOOL TEACHERS IN THE GOLDFIELD DISTRICT OF THE FREE STATE PROVINCE

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ABSTRACT

The objectives of this study were to determine the psychometric properties of an adapted version of the Maslach Burnout Inventory-Human Services Survey (MBI-GS) and the Utrecht Work Engagement Scale (UWES) for school educators in the Goldfield Region of the Northern Free State Province in different language groups. A cross-sectional survey design was used. Samples (n = 469) were randomly taken of educators in the Goldfield region of the Northern Free State Province in South Africa. An adapted version of the MBI-GS, the UWES and a biographical questionnaire was administered. Structural equation modelling confirmed a three-factor model of burnout consisting of Exhaustion, Depersonalization and Professional Efficacy. All three factors showed acceptable internal consistencies for three language groups. A three-factor model of engagement was also confirmed consisting of Vigour, Dedication and Absorption. The results showed practically significant correlations between the different burnout and engagement dimensions.

OPSOMMING

Die doelstelling van hierdie studie was om die psigometriese eienskappe van 'n aangepaste weergawe van die Maslach Uitbrandingsvraelys - Algemene Opname (MBI-GS) en die Utrecht-werksbegeesteringskaal (UWES) vir opvoeders in die Goudveld Streek van die Noordelike Vrystaat Provinsie vir verskillende taalgroepe vas te stel. 'n Dwarsdeursnee-ontwerp is gebruik. 'n Ewekansige steekproef (n = 469) is geneem uit onderwysers in die Goudveldstreek van die Noord-Vrystaat Provinsie in Suid Afrika. 'n Aangepaste weergawe van die MBI-GS, die UWES en 'n biografiese vraelys is geadministreer. Strukturele vergelykingsmodellering het 'n 3-faktormodel van uitbranding bestaande uit Uitputting, Depersonalisasie en Professionele Doeltreffendheid bevestig. Al drie faktore het aanvaarbare interne konsekwentheid getoon. Strukturele vergelykingsmodellering het ook 'n 3-faktormodel van werksbegeestering bestaande uit Energie, Toewyding en Absorpsie, aangetoon. Hierdie drie faktore het aanvaarbare interne konsekwentheid getoon. Die resultate het ook praktiese beduidende korrelasies getoon tussen die verskillende uitbrandings- en werksbegeesteringsdimensies.

"I just couldn't take it any more because my life was just day out and day in conflict. It seemed to me I could not satisfy, the demands just got more and more and more."

- Rudolph Waries (in Edmunds, 2002).

In the Carte Blanche documentary on school principals, it is said that Rudolph Waries was forced to take early retirement because of stress. Waries is described as someone who has "spent half his life in education". He is further described as "hardworking, respected, popular with pupils, and a rugby player". In the documentary it is said that "being a headmaster was so tough that it broke his spirit." (Edmunds, 2002).

Stress is increasingly becoming a major problem in workplaces around the world. Studies in the European Union, for example, show that nearly one third of all employees are affected by workplace stress at a cost of about €20-billion to the European economy. In America, US$ 300 billion a year is lost through absenteeism, diminished productivity and employee turnover, and medical, insurance and legal fees (Mita, 2002; Vaida, 2003). In 1981, the International Labour Organisation (ILO) has already reported on employment and working conditions and indicated that job-related stress was becoming a growing problem amongst educators (ILO, 1995; in Jackson & Rothmann, 2005).

The phenomenon described above is also evident in the South African education system. Jackson (2004) mentioned various newspaper articles that highlight the stress problem in South Africa. These newspaper articles emphasize the problem of stress in the South African educational context. For the last two decades at least, educational staff in schools have been feeling the effects of the overwhelming demands that are increasingly being placed on them (Otto, 1996). Otto (1996) further mentioned that schools are being called upon to find remedies for many of society's problems. They are often blamed for what goes wrong, even if they do not have complete control over the matter. They are constantly called upon to incorporate new content and approaches into the curriculum, and to develop new educational programs and tutorial practices (Otto, 1996). Symptoms of stress in educators can include anxiety and frustration, impaired performance, and ruptured interpersonal relationships at work and home (Kyriacou, 2001).

According to Troman and Woods (2001), educators who experience stress over long periods may experience what is known as burnout. Matheny, Gfroerer, and Harris (2000) noted that in earlier research into burnout, it was described as a loss of idealism and enthusiasm for work. Maslach (1982) defines burnout as a syndrome characterized by emotional exhaustion, depersonalisation and lowered feelings of personal capability that occurs in individuals who work with people. Burnout is a response to chronic emotional stress that develops when working with people, especially if the workers are experiencing problems. Schaufeli and Enzman (1998) also defined burnout as a persistent, negative, work-related state

of mind in 'normal' individuals that is primarily characterised by exhaustion, which is accompanied by distress, a sense of reduced effectiveness, decreased motivation, and the development of dysfunctional attitudes and behaviours at work. Burnout is a serious threat, especially for workers who work with other people (Van Dierendonck, Schaufeli, & Buunk, 1993).

The teaching profession is not immune to burnout and it is indeed an increasing problem (Mesthri, 1999). At the outset, educators experience personal rewards during their training and the first few months of teaching. Soon, however, they are faced with disparagement, overcrowded classrooms, the impact of educator shortages, ill health, lack of mobility, lack of financial and emotional rewards, difficult educator assignments, poor working conditions, disruptive students, difficult administrators, lack of respect, little or no social support, and other unconstructive conditions (Gold & Roth, 1993). Faced with these types of situations, many educators feel irritated and discouraged. When circumstances do not improve and they do not receive support, educators begin to feel a sense of desperation and lose their self-respect, and depression could set in. This leads to disillusionment, and ultimately, burnout (Gold & Roth, 1993).

Research has shown that the possible causes of burnout can be categorised into three factors, namely organisational, biographical and personality factors. The organisational factors that contribute to burnout include excessive workload (Rantanen, 1999), role conflict and role uncertainty (Melzer & Nord, 1981), lack of feedback, and career concerns such as lack of career development (Cooper, Dewe, & O'Driscoll, 2001). The biographical factors relating to burnout are age, work experience and sex (Marais, 1989; Van Wyk, 2004). Burnout is said to be more prevalent among younger workers and negatively related to work experience (Van Wyk, 2004). Kunzel and Schulte (1986) described the prevalence of burnout among the younger workforce and less experienced workers in terms of reality shock. Women are prone to emotional exhaustion, while men are prone to depersonalisation. Schaufeli and Enzmann (1998) tend to explain this in terms of sex-role-dependant stereotypes. Men typically hold instrumental attitudes, whereas women are more emotionally responsive, and seem to disclose emotional and health problems more easily.

A new tendency has recently emerged in burnout research (Maslach, Schaufeli, & Leiter, 2001). The focus of the research seems to have shifted towards it's opposite: *job engagement*. Researchers recently extended their interest to the positive pole of employees' well being, instead of looking exclusively to the negative pole. This development indicates an emerging trend towards a 'positive psychology' that focuses on human strengths and optimal functioning, rather than on weaknesses and malfunctioning (Seligman & Csikszentmihalyi, 2000). Work engagement is defined as an energetic state in which the employee is dedicated to exceptional performance at work and is assured of his or her own effectiveness (Schutte, Toppinen, Kalimo, & Schaufeli, 2000)

Schaufeli and his colleagues have defined engagement as a positive, fulfilling, work-related state of mind that is characterised by vigour, dedication, and absorption. 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. Work engagement consists of the following dimensions (Schaufeli, Salanova, Gonzáles-Romá & Bakker, 2002):

- **Vigour** is characterised by high levels of energy and mental resilience while working, the willingness to invest effort in one's work, not being easily fatigued, and persistence even in the face of difficulties.
- **Dedication** is characterised by deriving a sense of significance from one's work, by feeling enthusiastic and proud about one's job, and by feeling inspired and challenged by 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.

For educators who were exposed to unpleasant working conditions over long periods of time, work that started out as important, meaningful and challenging becomes unpleasant, unfulfilling and meaningless. According to Maslach and Leiter (1997), work engagement is characterised by energy, involvement and efficacy, which are considered the direct opposites of the three burnout dimensions, namely exhaustion, cynicism (depersonalisation) and lack of professional efficacy, respectively. Therefore, they also assess work engagement by the opposite pattern of scores on the three Maslach Burnout Inventory (MBI) dimensions: low scores on exhaustion and cynicism and high scores on efficacy are indicative of engagement. Schaufeli and his colleagues agree with Maslach and Leiter's description to a certain extent.

Schaufeli et al. (2002) is of the opinion that work engagement needs to be defined and operationalised in its own right. They consider burnout and work engagement to be opposite concepts that should be measured independently and with different instruments (Schaufeli et al., 2002). Furthermore, burnout and engagement may be considered to be two prototypes of employee well-being that are part of a more comprehensive taxonomy constituted of the two independent dimensions of pleasure and activation (Watson & Tellegen, 1985). Activation (or energy) ranges from exhaustion to vigour, while identification ranges from cynicism to dedication. According to this framework, burnout is characterised by a combination of exhaustion (low activation/ energy) and cynicism (low identification), whereas engagement is characterised by vigour (high activation/ energy) and dedication (high identification).

It is very important to use instruments that are reliable and valid to measure burnout and engagement. This is necessary for empirical research as well as for individual assessment. Various research studies on burnout have indicated that the Maslach Burnout Inventory is a psychometrically-sound tool for the measuring of burnout, and strong evidence regarding its reliability and validity exists. The internal consistencies of the Maslach Burnout Inventory-General Survey (MBI-GS) are satisfactory, ranging from 0,73 (Cynicism) to 0,91 (Exhaustion) (Leiter & Schaufeli, 1996). Schutte et al. (2000) analysed the reliability and showed that the Exhaustion and Professional Efficacy subscales were sufficiently internally consistent. They did, however, note that one Cynicism item should be removed to increase the internal consistency, namely item 13 ("I just want to do my work and not be bothered"). Other studies also found that this item had the lowest factor loadings of the three subscales (Schaufeli, Leiter, & Kalimo, 1995; Leiter & Schaufeli, 1996). Schaufeli et al. (1995) found that the internal consistencies of depersonalisation are also satisfactory with α ranging between 0,68 and 0,70.

The MBI-GS has already been studied in South Africa. Storm and Rothmann (2002) found satisfactory alpha coefficients for all dimensions of burnout (Exhaustion = 0,88; Cynicism = 0,78 [after item 13 had been omitted] and Professional Efficacy = 0,79). Malan and Rothmann (2002) found higher alpha coefficients for Exhaustion (0,89) and Professional Efficacy (0,85), but lower alpha coefficients for Cynicism (0,76). Schaufeli et al. (1995) indicated that the MBI-GS could be applied validly across different occupations when taking into consideration that the three dimensions of the MBI-GS are interrelated. Cynicism is strongly related to Exhaustion ($0,44 < r < 0,61$) and Professional Efficacy ($-0,38 < r < -0,57$). Schaufeli et al. (1995) found satisfactory alpha coefficients for all dimensions of burnout where Exhaustion = 0.88; Personal Accomplishments = 0,74 and Depersonalisation = 0,70.

In the educational context, Jackson (2004) found that the MBI-GS' internal consistencies were satisfactory, where Exhaustion = 0,79; Cynicism = 0,64; Professional Efficacy = 0,73; Depersonalisation = 0,60 and Mental Distance = 0,74. Van Wyk (2004) also found satisfactory internal consistencies with the different dimensions of the MBI-GS in the Educational context (Exhaustion = 0,79; Cynicism = 0,69; Professional Efficacy = 0,83; Depersonalisation = 0,76). Pienaar and Van Wyk (2006) further indicated that the dimension of Depersonalisation is better suited to describing educator burnout in the Goldfield Region of the Northern Free State Province than the dimension of Cynicism.

The distinction between the dimensions of Cynicism and Depersonalisation developed with the publication of the MBI-GS (Schaufeli et al., 1998). Whereas the original MBI was focussed on people specifically in human services (MBI-HSS, Maslach, Jackson & Leiter, 1996), the MBI-GS (Schaufeli et al., 1998) was more generally focussed on all employees in all organisations. The difference in focus is that Depersonalisation (from the MBI-HSS) describes a cynical attitude directed toward the recipients of

one's service, whereas the Cynicism dimension (from the MBI-GS) describes a generally cynical attitude towards one's job, colleagues and organisation. Van Wyk and Pienaar (2006) noted that it is worrying that the Depersonalisation construct showed better fit to the data than Cynicism, since it indicates the focussed cynical attitude of educators towards other people, i.e. colleagues, learners and parents, as opposed to a more general cynicism toward the job or the organisation.

From the problem statement set out above it is clear that stress and burnout could be a significant problem for educators, and given the situational complexities, especially in South Africa. Not a lot of research regarding the burnout and engagement of educators in the Free State Province has been done. Marais (1989) found significant levels of burnout and stress in the late eighties. Van Wyk (2004) also found evidence of burnout amongst educators in the Goldfields Region of the Free State Province. However, as noted above, the conceptual relationship between burnout and engagement needs to be clarified. Therefore the objective of this research is to develop a work-wellness model of educators in the Goldfields Region of the Free State Province by identifying factors which could be indicative of wellness (burnout and engagement). The objective is further explicated by stating that this research seeks to delineate both constructs of burnout and engagement, validate its components, and look at the second-order factor structure to describe work wellness holistically.

The above discussion leads to the following hypotheses:

H1: A model of work wellness developed for educators in the Goldfield Region of the Northern Free State Province consist of all dimensions of burnout (emotional exhaustion, depersonalisation and professional efficacy) and engagement (vigour, dedication and absorption), and proves valid and reliable for all language groups.

H0: A model of work wellness developed for educators in the Goldfield Region of the Northern Free State Province does not consist of all burnout and engagement dimensions, and/or does not prove valid and reliable for all language groups.

METHOD

Research design

A survey design was used to attain the research objectives. The specific design is the cross-sectional design, where a sample is drawn from a population at one point in time (Shaughnessy & Zechmeister, 1997). Schaufeli and Enzmann (1998) criticized the use of this design in burnout research, and have recommended that experiments and longitudinal studies should be used when possible. But the obvious advantage of the cross-sectional approach is time, with the shortcoming of cohort effects. A cohort is a

group of people born at about the same time. If different cultural or age groups are compared, they do not only differ in terms of ethnicity or chronological age, but also in terms of the environments in which they were raised (Goodwin, 2002).

Participants

Participants were randomly selected from the total population of educators in the Goldfield Region of the Northern Free State Province. A sample of 469 educators was used from the total population of 1014. Schools in the Goldfields Region of the Northern Free State Province were randomly selected and principals were provided with questionnaires to give to their staff. Completed questionnaires were to be given to the principals, from whom the questionnaires were to be collected at a pre-determined date. The Director-General of the Free State Department of Education granted permission for the study to be conducted. The formula proposed by Kerlinger and Lee (2000) was used to determine the sample size for this study:

$$n' = \frac{n}{1 + \frac{n}{N}}$$

and

$$n = \frac{z^2 \times SD^2}{d^2}$$

where n' = estimated sample size; n = the estimated sample size using the formula; N = the size of the population; z = standard score corresponding to the specified probability of risk; SD = the standard deviation of the population, and d = the specified deviation.

The same values for z, SD and d that were used for previous studies of burnout in South Africa (Storm & Rothmann, 2002), and specifically the teaching profession (Jackson, 2004), were used in the current research. Random selection at school level was also used, since this is important in order to draw accurate conclusions about the entire group of interest (Spector, 2000).

Table 1 presents some of the biographical characteristics of the participants.

Table 1

Characteristics of the Participants (n=469)

Variable	Category	Frequency*	Percentage*
Qualifications	Matric and diploma	75	16,52
	Matric and higher diploma or degree	217	47,80
	Matric and higher diploma and degree hons	141	31,06
	Matric and higher diploma and degree MA	21	4,63
Type of contract	Permanent	416	90,43
	Temporary	30	6,52
	Fixed Term	8	1,74
Sex	Male	184	39,48
	Female	282	60,52
Status	Single	58	12,53
	Engaged	81	17,49
	Married	255	55,08
	Divorced	43	9,29
	Separated	20	4,32
	Remarried	6	1,30
Language	Afrikaans	185	39,36
	English	80	17,02
	Sepedi	5	1,06
	Sesotho	131	27,87
	Setswana	8	1,70
	Tshivenda	1	0,21
	IsiNdebele	1	0,21
	IsiXhosa	54	11,49
	IisiZulu	5	1,06
Any major stressful events this last 6 months	Yes	216	46,25
	No	251	53,75
Any major illnesses in the last 6 months	Yes	90	19,19
	No	379	80,81
Overall health this past 3 months	Good	282	61,71
	Alright	152	33,26
	Poor	22	4,81
Did you return to work before you were well because of work pressure	Yes	149	32,60
	No	308	67,40
Any chronic illnesses during the past 3 months	Yes	89	19,43
	No	369	80,57
I consider quitting the profession	1 - Agree	66	14,25
	2	42	9,07
	3	62	13,39
	4	192	41,47
	5 - Disagree	101	21,81
How frequent do you consider quitting the profession	1 - Frequently	61	13,29
	2	46	10,02
	3	91	19,83
	4	184	40,09

Table 1 continued

Characteristics of the Participants

	5 - Never	77	16,78
I have the basic equipment to perform my task effectively	1 - Completely disagree	19	4,06
	2	43	9,19
	3	97	20,73
	4	196	41,88
	5 - Completely agree	113	24,15
I have the right skills, knowledge and abilities to teach effectively	1 - Completely disagree	6	1,29
	2	24	5,15
	3	77	16,52
	4	191	40,99
	5 - Completely agree	168	36,05
Union Member	Yes	252	54,19
	No	213	45,81
Provision for stress management	Yes	58	12,39
	No	290	61,97
	Don't know	120	25,64
Provision for staff counselling	Yes	67	14,29
	No	301	64,18
	Don't know	101	21,54
If available, have you used these services	Yes	185	49,33
	No	190	50,67
Would you use these services if they were available	Yes	314	68,86
	No	78	17,11
	Don't know	64	14,04

*Where totals are not equal to 100, this is due to missing values.

The majority (47,80%) of the sample had an M + 4 (Matric +higher diploma or degree - BA) qualification. The mean age of the participants was 37,58 years, while the mean length of work experience was 13,08 years. The majority (90,43%) of the participants had permanent contracts. Regarding the gender of participants, 60,52% were female. This closely represents the population of educators in the Goldfields Region of the Northern Free State Province where 66% are female educators and 34% male educators. More than half (55,08%) of the participants were married at the time. Most participants' (39,36%) home language was Afrikaans, whilst only 17,02% of the participant's home language was English. There is a marginal difference between the participants and the population as 25,4% of the population of educators in the Goldfields Region of the Northern Free State Province are Afrikaans, 3,49% English and 71,12% are speaking an African language. Regarding the experience of major stressful events in the preceding 6 months, 53,75% of the participants indicated that they had experienced such an event, whilst 80,81% of the participants had experienced a major illness during the same period. When asked whether they were considering quitting the profession, 41,47% of the study sample indicated that they were not, and 40,09% of the sample almost never think about quitting the

profession. The majority (41,88%) of the sample agree with the statement that they have the basic equipment to perform their tasks effectively, whilst 40,99% of the sample agrees that they do have the right skills and abilities to perform their tasks effectively. More than half of participants (54,19%) indicated that they belong to a union. Most (61,97%) of the participants do not have provision for stress management and 64,18% of the participants do not have provision for staff counselling. Table 1 indicates that 50,67% of the sample had not used these services if it was available, whilst 68,86% of the participants would use these services if they were available.

Measuring battery

Three measuring instruments were used in the study. The Maslach Burnout Inventory-General Survey (MBI-GS, Schaufeli et al., 1996), the Utrecht Work Engagement Scale (UWES, Schaufeli et al., 2002), and a biographical questionnaire were administered to attain the research objectives.

An adapted version of the *Maslach Burnout Inventory – General Survey (MBI-GS)* (Schaufeli et al., 1996) was used to measure respondents' relationships with their work. The MBI-GS has three subscales: Exhaustion (Ex) (five items; e.g. "I feel used up at the end of the workday"), Cynicism (Cy) (five items; e.g. "I have become less enthusiastic about my work") and Professional Efficacy (PE) (six items; e.g. "In my opinion, I am good at my job"). Together the subscales of the MBI-GS provide a three-dimensional perspective on burnout. Test-retest reliabilities after one year were 0,65 (Exhaustion), 0,60 (Cynicism) and 0,67 (Professional Efficacy) (Schaufeli et al., 1996). All items are scored on a 7-point frequency rating scale ranging from 0 ("never") to 6 ("daily"). High scores on Ex and Cy, and low scores on PE are indicative of burnout. Depersonalisation (from the *MBI-Health Services Survey*, Maslach & Jackson, 1986) describes an unfeeling and impersonal response towards recipients of one's care or service. Although the Depersonalisation and Cynicism constructs can be said to be related, Depersonalisation presents a more specific interpersonal focus than Cynicism, which refers to a general attitude of cynicism regarding work, the employing organisation, colleagues, or the recipients of ones' service.

The *Utrecht Work Engagement Scale (UWES)* (Schaufeli et al., 2002) was used to measure the levels of engagement. Although work engagement is conceptually seen as the positive antithesis of burnout, it is operationalised in its own right. Work engagement is a concept that includes three dimensions: vigour, dedication and absorption. Engaged workers are characterised by high levels of vigour and dedication, and they are immersed in their jobs. It is an (empirical) question whether engagement and burnout are end points of the same continuum or if they are two distinct but related concepts. The UWES is scored on a seven-point frequency rating scale, varying from 0 ("never") to 6 ("always"). The alpha coefficients for the three sub-scales varied between 0,68 and 0,91. The alpha coefficient could be improved (α varies

between 0,78 and 0,89 for the three sub-scales) by eliminating a few items without substantially decreasing the scale's internal consistency.

A biographical questionnaire was also administered. The questionnaire requested participants to supply their age, qualification, years of experience, job level, type of contract, gender, marital status, home language, presence of chronic illnesses, the intentions they have of quitting the profession, whether they consider themselves to have the basic equipment and skills to perform their work successfully, whether they belong to a union, and if they have access to stress management and stress counselling services at the schools where they work.

Statistical Analysis

The statistical analysis was carried out with the help of the SPSS-program (SPSS, 2003) and the Amos-program (Arbuckle, 1999). The SPSS-program was used to carry out statistical analysis regarding the reliability and validity of the measuring instruments, descriptive statistics, and correlation coefficients. AMOS was used to assess model fit.

Cronbach alpha coefficients were used to assess the reliability and validity of the measuring instruments (Clark & Watson, 1995). Descriptive statistics (e.g. means, standard deviations, skewness and kurtosis) and inferential statistics were used to analyse the data. Pearson product-moment correlation coefficients were used to specify the relationships between the variables. Effect sizes (Cohen, 1988) were used to decide on the practical significance of the findings. A cut-off point of $d = 0,30$ (medium effect, Cohen, 1988) was set for the practical significance of correlation coefficients.

The fit of the hypothesised burnout and engagement constructs to the data are tested empirically for goodness of fit. The χ^2 and several other goodness-of-fit indices summarise the degree of correspondence between the implied and observed covariance matrices. Jöreskog and Sörborn (1993) suggest that the χ^2 value may be considered more appropriate as badness-of-fit rather than the goodness-of-fit measure in the sense that a small χ^2 value is indicative of good fit. However, because the χ^2 statistic equals $(N - 1)F_{min}$, this value tends to be substantial when the model does not hold and the sample size is large (Byrne, 2001). A large χ^2 relative to degree of freedom indicates a need to modify the model to fit the data better. Researchers have addressed the χ^2 limitations by developing goodness-of-fit indices that take a more pragmatic approach to the evaluation process. One of the first fit statistics to address this problem was the χ^2/degree of freedom ratio (C_{MIN}/DF) (Wheaton, Muthèn Alwin & Summers, 1977). These criteria,

commonly referred to as "subjective" or "practical" indices of fit, are typically used as adjuncts to the χ^2 statistics.

The Goodness-of-Fit Index (GFI) indicates the relative amount of the variance/co-variances in the sample predicted by the estimates of the population. It usually varies between 0 and 1 and a result of 0.90 or above indicates the good model fit. In addition, the Adjusted Goodness-of-Fit Index (AGFI) is given. The AGFI is a measure of the relative amount of variance accounted for by the model, corrected for the degrees of freedom in the model relative to the number of variables. The GFI and the AGFI can be classified as absolute indices of fit because they basically compare the hypothesised model with no model at all (Hu & Bentler, 1995). Although both indices range from zero to 1.00, the distribution of the AGFI is unknown; therefore no statistical test or critical value is available (Jöreskrog and Sörborn, 1986).

The Normed Fit Index (NFI) is used to assess the global model fit. The NFI represents the point at which the model being evaluated falls on a scale running from a null model to perfect fit. This index is normed to fall on a 0 to 1 continuum. Marsh, Balla and Hau (1996) suggested that this index is relatively sensitive to sample sizes. The Comparative Fit Index (CFI) represents the class of incremental fit indices in that it is derived from the comparison of a restricted model (i.e., one in which structure is imposed on the data) with that of an independence (or null) model (one in which all correlations among variables are zero) in the determination of goodness of fit. The Tucker-Lewis Index (TLI; Tucker & Lewis, 1973) is a relative measure of covariation, explained by the model that is specifically developed to assess factor models. For these fit indices, it is more or less generally accepted that a value of less than 0,90 indicates that the fit of the model can be improved (Hoyle, 1995), although a revised cut-off value close to 0,95 has recently been advised (Hu & Bentler, 1999).

To overcome the problem of sample size, Browne and Cudeck (1993) suggested using the Root Mean Square Error of Approximation (RMSEA) and the 90% confidence interval of the RMSEA. The RMSEA estimates the overall amount of error; it is a function of the fitting function value relative to the degrees of freedom. The RMSEA point estimate should be 0,05 or less and the upper limit of the confidence interval should not exceed 0,08. Hu and Bentler (1999) suggested a value of 0,06 to be indicative of good fit between the hypothesised model and the observed data. Researchers recently elaborated on these cut-off points and noted that RMSEA values ranging from 0,08 to 0,10 indicate mediocre fit, and those greater than 0,10 indicate poor fit (MacCallum, Browne, & Sugawara, 1996)

RESULTS

As a first step, it was necessary to come up with a burnout model that fit the data for different language groups acceptably. Also, since competing models need to be tested (Byrne, 2001), a one-factor and three-factor model was tested. Since the MBI is an English-language instrument, the hypothesized model of burnout was initially fitted to the English-language group's data. After achieving suitable fit, the hypothesized model of burnout was fitted to the Afrikaans-language group's data. The reasoning behind this is that, given South Africa's politically divided past, first-language speakers of English and Afrikaans are more likely to have had better access to schooling and education, and thus the language medium used in the MBI. Thirdly, bearing the models that fit the English and Afrikaans-language groups' data in mind, the hypothesized model of burnout was fitted and adapted for the African-languages group. Finally, a model with all problematic items deleted and indicated co-variances allowed, was fitted to the overall data. These results are presented in Table 2.

Table 2

Goodness-of-Fit Statistics for a Hypothesised One-Factor Burnout Model for the English-Language Group

Model	Group	χ^2	χ^2/df	GFI	AGFI	NFI	TLI	CFI	RMSEA
Hypothesized	English	363,79	3,50	0,55	0,41	0,40	0,39	0,47	0,18
Model 1		314,18	3,491	0,59	0,45	0,42	0,41	0,49	0,18
Model 2		273,25	3,55	0,62	0,48	0,45	0,43	0,52	0,18
Model 3		212,54	3,27	0,68	0,55	0,49	0,48	0,57	0,17
Model 4		175,62	3,252	0,70	0,57	0,54	0,53	0,62	0,17
Model 5		151,42	2,86	0,75	0,63	0,60	0,61	0,69	0,15
Model 6		127,38	2,45	0,79	0,69	0,53	0,67	0,70	0,14
Model 7		103,80	2,04	0,83	0,73	0,73	0,78	0,83	0,12

The hypothesized one-factor model of burnout was initially fitted to the data for first-language speakers of English. The hypothesized model showed poor fit to the data, with none of the fit statistics deemed acceptable. When evaluating the Standardized Residual Covariances, item 7 ("I feel I am making an effective contribution to what this organisation does") was deleted, since it showed four values above the guideline of 2. The adjusted model was again fitted to the data (Model 1), showing slightly improved fit, but still none of the fit statistics were deemed acceptable. In Model 2, item 16 ("At my work, I feel confident that I am effective at getting things done.") was deleted due to high standardized residual covariance values. Fit remained unacceptable. Model 3 saw the removal of item 10 ("In my opinion, I am good at my job."), and Model 4 of item 5 ("I can effectively solve the problems that arise in my work.").

At this stage, fit was still not acceptable, but no items showed unacceptably high standardised residual covariances.

Modification indices indicated that error co-variance between items 1 ("I feel emotionally drained from my work") and 2 ("I feel used up at the end of the workday") should be allowed. Since both of these items load on the Exhaustion dimension of burnout, the covariance was allowed (Model 5). The fit again improved somewhat, but still none of the fit statistics have reached critical cut-off points. In Model 6, error covariance between items 3 ("I feel tired when I get up in the morning and have to face another day on the job.") and 6 ("I feel burned out from my work") were allowed, and in Model 7, between items 11 ("I feel exhilarated when I accomplish something at work") and 12 ("I have accomplished many worthwhile things in this job"). Items 3 and 6 both relate to Exhaustion, while items 11 and 12 are both related to Professional Efficacy. No further modification indices were indicated, and Model 7 seemingly represents the best fit to the data. However, this model still shows unacceptable fit for all fit statistics. Since the model could not be satisfactorily fitted to an English language sample, it can readily be assumed that the one factor model will not hold for an Afrikaans or African language group. Previous research has consistently shown that the hypothesized burnout model fits data for English-language speakers best (Naude & Rothmann, 2003). Since the one-factor model of burnout could not provide a satisfactory explanation of the data, analysis proceeded with the hypothesized three-factor model. Results are presented in Table 3.

Table 3

Goodness-of-Fit Statistics for a Hypothesised Three-Factor Burnout Model for Different Language Groups

Model	Group	χ^2	χ^2/df	GFI	AGFI	NFI	TLI	CFI	RMSEA
Hypothesized	English	171,285	1,70	0,80	0,73	0,72	0,83	0,86	0,09
Model 1		125,18	1,44	0,84	0,77	0,77	0,90	0,91	0,08
Hypothesized	Afrikaans	225,224	2,23	0,88	0,83	0,82	0,87	0,89	0,08
Model 1		150,26	1,73	0,91	0,88	0,87	0,93	0,94	0,06
Model 2		137,22	1,60	0,92	0,89	0,88	0,94	0,95	0,06

Table 3 continued

Goodness-of-Fit Statistics for a Hypothesised Three-Factor Burnout Model for Different Language Groups

Model	Group	χ^2	χ^2/df	GFI	AGFI	NFI	TLI	CFI	RMSEA
Hypothesized	African	267,14	2,65	0,84	0,78	0,81	0,84	0,87	0,10
Model 1		216,52	2,49	0,86	0,81	0,83	0,86	0,89	0,09
Model 2		148,41	2,01	0,89	0,85	0,87	0,91	0,93	0,08
Model 3		126,75	1,76	0,91	0,87	0,87	0,93	0,95	0,07
Final Model	All	332,36	1,56	0,91	0,87	0,87	0,94	0,95	0,05

It can be seen in Table 3 that for the English language group, the hypothesized three-factor model showed a relatively good fit. However, TLI, GFI and RMSEA values were not within the recommended guidelines. Examination of the modification indices indicated that Item 2 ("I feel used up at the end of the workday") had cross-loadings on another factor. Model 1 for the English language group shows the fit indices with item 2 removed. No further modification indices were indicated and all fit indices were deemed acceptable. For the Afrikaans language group, the hypothesized model showed relatively good fit, but the χ^2/df value is above the recommended cut-off value of 2. Inspection of the modification indices indicated that Item 2 did not load on the hypothesized factor. Model 1 for the Afrikaans language group shows the fit indices with item 2 deleted. In order to improve fit further, the modification indices were again inspected, and following Byrne (2001), variance between errors 12 and 11 allowed, since both items relate to Professional Efficacy. This resulted in Model 2, which was deemed to fit the data acceptably.

The hypothesized model for the African languages group showed relatively poor fit to the data, with particularly high χ^2/df and RMSEA values. Inspection of modification indices indicated that Item 2 again loaded on the wrong factor, was deleted, and results are reflected as Model 1. Fit of the model (as indicated by the χ^2/df and RMSEA values) was still not deemed acceptable. Inspection of modification indices suggested that Item 19 ("I worry that this job is hardening me emotionally") be deleted. Results of fit indices with item 19 deleted are reflected in Model 2. Given that the χ^2/df value was still above the recommended value of 2, covariance between errors 17 and 18 was allowed (in accordance with Byrne, 2001). Results are presented as Model 3, and fit was deemed acceptable. As a final step, the adjusted model (Figure 1) was fitted on the whole dataset. Results are depicted in Table 1 as Final Model. Although values for the AGFI and NFI are still relatively low, all the other indices showed excellent goodness of fit. Therefore it was decided to accept this model of burnout for further analyses.

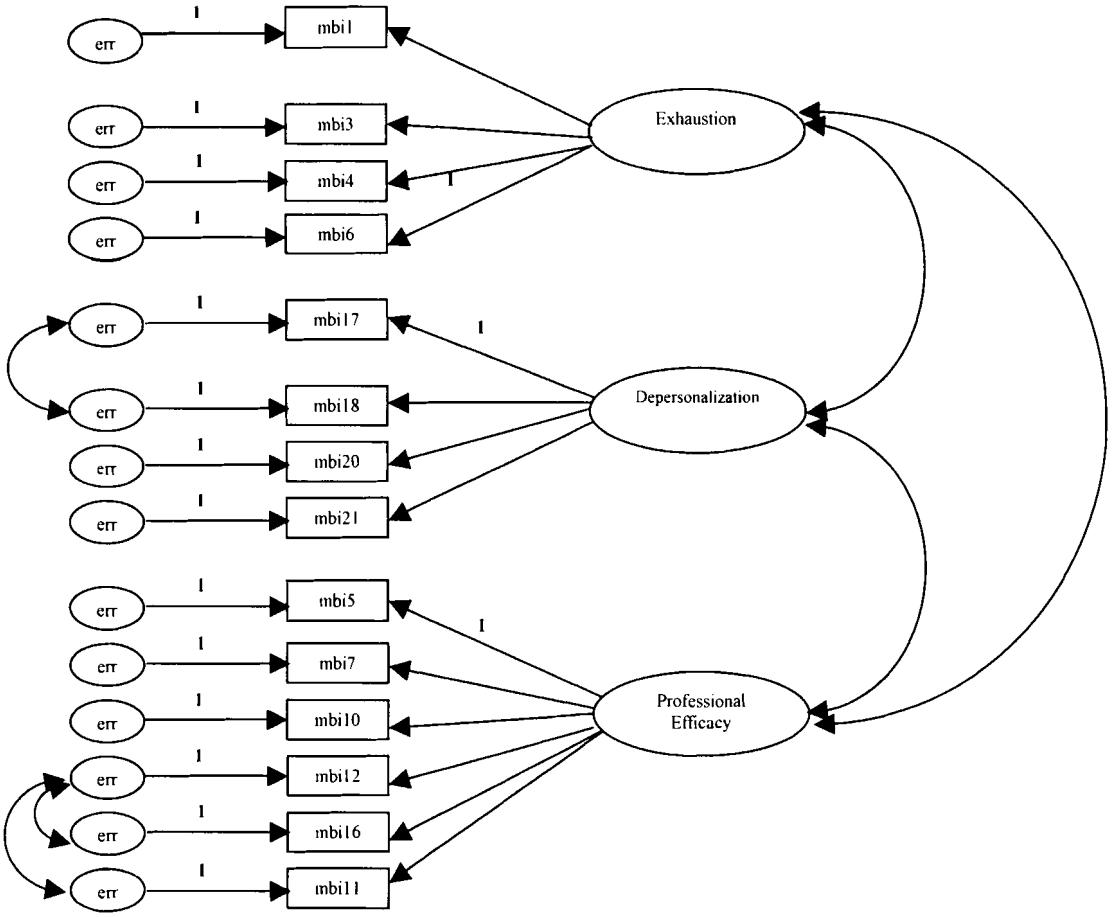

Figure 1. The final Burnout model.

It was also necessary to develop an engagement model that fit the data in the sample adequately. Again, a one-factor and three-factor model was tested to determine which best described the data. Initially, a one-factor solution of the engagement construct was tested in the English language sample. Results are presented in Table 4 below.

Table 4

Goodness-of-Fit Statistics for a Hypothesised One-Factor Engagement Model for the English language Group.

Model	Group	χ^2	χ^2/df	GFI	AGFI	NFI	TLI	CFI	RMSEA
Hypothesized	English	194,24	2,16	0,75	0,66	0,63	0,71	0,75	0,12
Model 1		1,48,53	1,93	0,79	0,72	0,68	0,78	0,81	0,11
Model 2		129,20	1,7	0,82	0,75	0,73	0,83	0,86	0,10

The hypothesized one-factor model of engagement showed poor fit to the data of the English language-speakers. Inspection of the Standardized Residual Covariances indicated that item 11 ("I am immersed in my work") showed values above the recommended cut-off of 2,58 (Jöreskog & Sörbom, 1986). The

adjusted fit-statistics for a model without item 11 (Model 1) are presented above. Although the χ^2/df-value is acceptable, all other fit indices remain unacceptable. No further items showed problematic standardised residual covariances, and the modification indices were examined. Only one was indicated, as a correlation between the error variances of items 3 ("Time flies when I'm working") and 10 ("I am proud of the work that I do"). Following Byrne (2001), the error covariance was allowed, but still none of the fit indices were deemed acceptable, except the χ^2/df-value. Since the one factor model of engagement could not be fitted to an English language speaking sample, the alternative hypothesis (3 factors) would be tested with the three different language groups, since the English language instrument usually fits the English language data best (Jackson & Rothman, 2004b). Again, the model was firstly fitted to the English-language data, secondly to the Afrikaans, and thirdly to the African languages group. Results are presented in Table 5.

Table 5

Goodness-of-fit Statistics for the Hypothesised Engagement Model for Different Language Groups

Model	Group	χ^2	χ^2/df	GFI	AGFI	NFI	TLI	CFI	RMSEA
Hypothesized	English	191,52	2,20	0,75	0,66	0,63	0,70	0,75	0,12
Model 1		103,95	1,68	0,85	0,77	0,74	0,84	0,87	0,09
Model 2		71,357	1,40	0,88	0,81	0,80	0,91	0,93	0,07
Hypothesized	Afrikaans	239,147	2,749	0,83	0,76	0,82	0,85	0,88	0,10
Model 1		183,62	2,48	0,86	0,81	0,85	0,88	0,91	0,09
Model 2		143,93	2,32	0,88	0,83	0,87	0,90	0,92	0,09
Model 3		131,80	2,16	0,89	0,84	0,88	0,91	0,93	0,08
Model 1	African	136,36	2,67	0,89	0,83	0,84	0,86	0,89	0,09
Model 2		107,75	2,16	0,91	0,86	0,88	0,91	0,93	0,07
Final Model	All	101,11	2,06	0,90	0,86	0,95	0,95	0,97	0,05

When fitting the hypothesized model to the English data, it was seen that it showed relatively poor fit. Investigation of the standardized residual co-variances indicated that items 10 ("I am proud of the work that I do") and 11 ("I am immersed in my work") displayed values far above the recommended cut-off of 2,58. Both these items were deleted and the adjusted fit-indices are portrayed in the table as Model 1. Since the RMSEA value was still above the upper limit of 0,08, modification indices were inspected and indicated item 12 ("In my job, I can continue working for very long periods at a time") to load on the wrong factor. It was deleted and the fit indices for the final model are reflected as Model 2. Fit was deemed acceptable.

For the Afrikaans language group, the hypothesized model showed poor fit, as indicated especially by the high χ^2/df and RMSEA values. Inspection of standardised residual co-variances suggested item 10 be deleted. Adjusted fit indices are given as Model 1. Though fit improved, most indices are not close enough to critical values. Modification indices suggested that Item 11 also be deleted due to incorrect loading. Fit indices for the adjusted model are presented as Model 2. Again, fit improved, but the RMSEA value remained above the upper threshold. Modification indices suggested variance between errors 9 and 15 be allowed. Both items focused on the involvement of a person in his/her job. The fit indices for the final model were deemed acceptable, and are portrayed as Model 3.

Given that items 10, 11 and 12 proved problematic for the English and Afrikaans language groups, they were deleted for initial fit to the African languages group's data. The fit of this model is depicted as Model 1 in the table. The model fit the data relatively well, but was still not acceptable. Modification indices suggested variance between errors 9 and 14 be allowed, as both items focuses on the positive energy that a person can derive from a job. Fit indices for the adjusted model are presented as Model 2, and were deemed acceptable. Finally, a model with all constraints for all language groups kept intact was fitted to the data. Results hereof are presented as Final Model in Table 4, and graphically depicted in Figure 2.

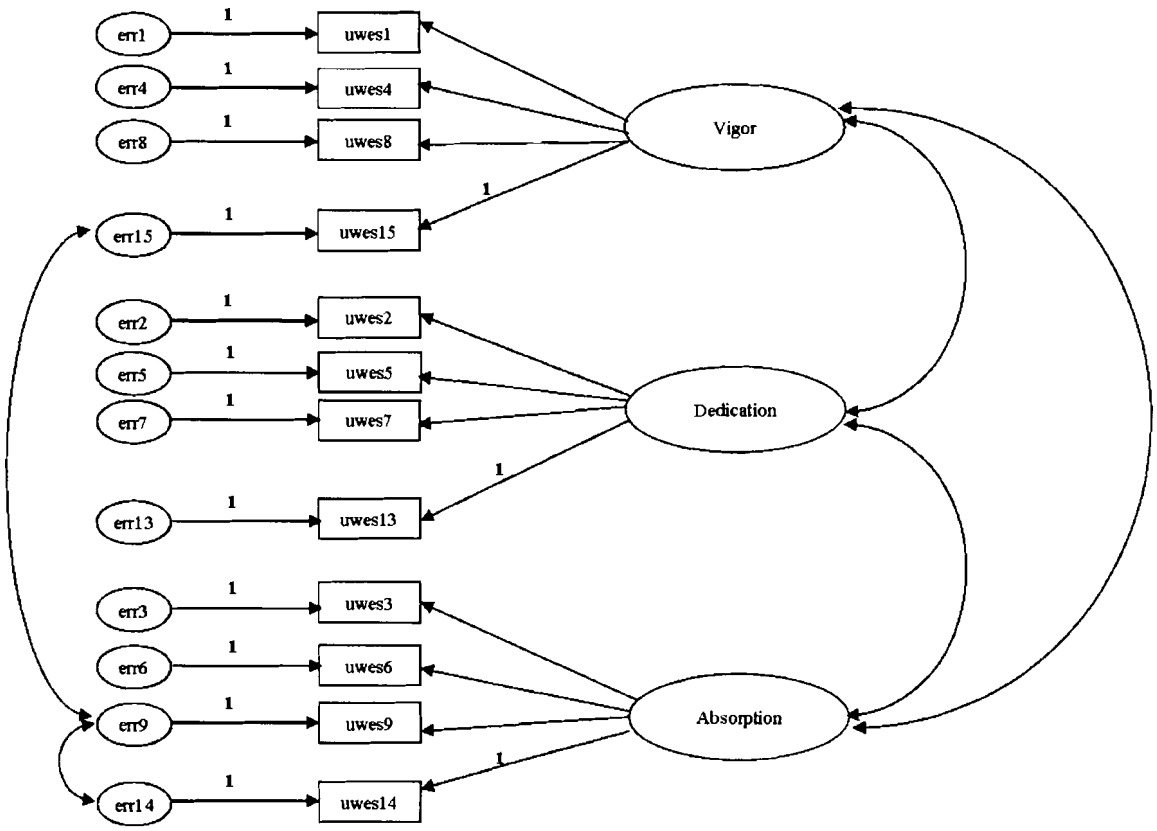

Figure 2. The final Engagement model.

The descriptive statistics and reliability coefficients for the different sub-scales are presented in Table 6.

Table 6

Descriptive Statistics for the Full Sample and Reliability Coefficients for the Variables per Language Group

Variable	Mean	SD	Skewness	Kurtosis	α		
Burnout					Afr	Eng	Afc
Exhaustion	10,62	3,98	-0,24	0,27	0,83	0,71	0,76
Depersonalisation	8,58	4,20	-0,40	-0,18	0,79	0,85	0,72
Professional Efficacy	21,19	5,43	0,31	-0,80	0,87	0,85	0,86
Engagement							
Vigour	12,09	3,30	0,11	0,30	0,72	0,63	0,64
Dedication	12,22	3,88	0,46	-0,50	0,85	0,78	0,85
Absorption	12,46	3,46	0,37	-0,33	0,76	0,54	0,62

Afr = Afrikaans Eng = English Afc = African language

From Table 5 it can be seen that all variables were normally distributed. As far as the reliability coefficients are concerned, most are in the recommended range (Nunnally & Bernstein, 1994). However, some exceptions exist. Most notably, Vigour showed relatively lower reliabilities for the English and African languages groups. The same was true for the Absorption scale, which was particularly low in the English language group. However, all scales are retained for subsequent analyses to ensure robustness of findings.

The next step was to investigate whether the hypothesized relationships between the different subscales hold. Correlations between the different subscales are presented in Table 7.

Table 7

Correlations between Burnout and Engagement Subscales

Variable	Depersonalisation	Professional Efficacy	Vigour	Dedication	Absorption
Exhaustion	0,29	-0,09	-0,31**	-0,25	-0,10
Depersonalisation		-0,41**	-0,28	-0,37**	-0,30**
Professional Efficacy			0,58***	0,73***	0,64***

Table 7 continued

Correlations between Burnout and Engagement Subscales

Variable	Depersonalisation	Professional Efficacy	Vigour	Dedication	Absorption
Vigour				0,73*++	0,59*++
Dedication					0,62

* Correlation is statistically significant
+ Correlation is practically significant $r \geq 0.30$ (medium effect)
++ Correlation is practically significant $r \geq 0.50$ (large effect)

It can be seen in Table 7 that the dimension of Exhaustion showed a positive correlation with Depersonalisation, and negative correlations with Professional Efficacy, Dedication and Absorption. Exhaustion also showed a negative practically significant correlation (medium effect) with Vigour. The Depersonalisation dimension showed a negative practically significant correlation (medium effect) with the burnout dimension of Professional Efficacy, as well as the engagement dimensions of Vigour and a practically significant correlation (medium effect) with Dedication and Absorption. The burnout dimension of Professional Efficacy showed positive practically significant (large effect) correlations with all engagement dimensions (Vigour, Dedication and Absorption). In turn, all engagement variables were positively related, with Vigour showing a practically significant correlation (large effect) with Dedication and Absorption.

Finally, a second-order factor analysis was carried out to define the super-order factors that describe the psychological health of educators in the Goldfield Region of the Freestate Province. Initially, a principal components analysis indicated that two factors should be extracted. An Oblimin rotation was performed, yielding two negatively related factors (r = -0,27), explaining 71,44% of the variance in the data. Results of this analysis are depicted in Table 8.

Table 8

Second-Order Factor Analysis of the Burnout and Engagement Variables

Variable	F_1	F_2	h^2
Exhaustion	0,12	0,95	0,86
Depersonalisation	-0,34	0,51	0,47
Professional Efficacy	0,90	0,11	0,78
Vigour	0,76	-0,19	0,68
Dedication	0,86	-0,09	0,79
Absorption	0,87	0,12	0,72

It can be seen from Table 7 that the Burnout dimensions of Exhaustion and Depersonalisation grouped together on one factor, while the Burnout dimension of Professional Efficacy grouped with the Engagement variables of Vigour, Dedication and Absorption. Communalities were in the average to high range.

DISCUSSION

The main focus of this study was to determine if a model of work wellness could be developed for educators in the Goldfield Region of the Northern Free State Province, consisting of all dimensions of burnout (emotional exhaustion, depersonalisation and professional efficacy) as well as engagement (vigour, dedication and absorption), and whether such a model could be proven valid and reliable for all language groups.

The first step in the validation of the hypothesized burnout model was to find an acceptable fit across various language groups. After item 2 ("I feel used up at the end of the workday") was removed, an acceptable fit for the hypothesized burnout model in the English language group was found. After variance between errors 12 and 11 were allowed, an acceptable fit for the Afrikaans language group was also found. Initially, a poor fit was found for the hypothesized burnout model in the African language group. But, after the deletion of item 2 and item 19 ("I worry that this job is hardening me emotionally"), and covariance between errors 17 and 18 were allowed, an acceptable fit was found for the hypothesized burnout model for the African language groups.

According to Salanova and Schaufeli (2000), the translation of items containing uncommon words could affect the responses of participants, especially if the questionnaire is not formulated in their first language. Most of the participants in this study are not first language speakers of English. Being 'hardened emotionally' and 'feeling used up' may not be common expressions used to describe the experiences of African participants, but the fact that the theoretical burnout model could be fitted to the Afrikaans and African-language samples, attests to the instruments' robust psychometric properties.

The second step was to validate the hypothesized engagement model across the three language groups. At first, a very poor fit was found for the hypothesized engagement model in the English language group. After the deletion of items 10 ("I am proud of the work that I do") and 11 ("I am immersed in my work"), the overall fit was still not satisfactory. After inspections, it was found that item 12 ("In my job, I can continue working for very long periods at a time") loaded on the wrong subscale. It was deleted and the fit for the hypothesized engagement model in the English language was deemed acceptable. For the Afrikaans language group, the hypothesized engagement model also showed poor fit. Items 10 and 11

were again deleted, as they did not load on the hypothesized factors. Variance between errors 9 and 15 were also allowed and resulted in acceptable fit for the Afrikaans group. After achieving fit for the English and Afrikaans groups after deleting items 10, 11 and 12, they were deleted for initial fit to the African-languages group's data. The model fit the data relatively well, but was still not considered acceptable. After variance between errors 9 and 14 were allowed, an acceptable fit between the hypothesized engagement model and African-language groups were found. The deletion of Item 12 is consistent with another study that used the UWES. Jackson (2004) also found that with the deletion of Items 12, 16 and 17, a better fit could be found. Finally, a model with all constraints for all language groups kept intact was fitted to the data.

It is important to note that error terms within subscales were also allowed to correlate in order to improve model fit. Correlated error terms in measurement models represent systematic, rather than random, measurement error in item responses. They may derive from characteristics specific either to the items or to the respondents (Aish & Jöreskog, 1990). This could be for example that if these parameters reflect item characteristics, they may represent a small, omitted factor. However, as may be the case here, correlated errors may represent respondent characteristics that reflect bias, social desirability (Aish & Jöreskog, 1990) and a high degree of overlap in item content (when an item, although worded differently, essentially asks the same question) (Byrne, 2001). The fact that different error variances were indicated for different language groups seems to suggest that it is indeed a reflection of respondent characteristics. However, all error variances were kept in tact for the fit of final models to the grouped data, thus taking variance within the group(s) into account.

The reliability coefficients per language group were also determined. Most of the coefficients were in the acceptable range. However, Vigour showed relatively lower reliabilities for the English and African groups. Absorption also exhibited low reliability for the English language group. On the whole, however, coefficients were deemed acceptable.

Educators who experience fatigue in the workplace are prone to feel distant from those who they work with, in other words the learners. Thus, if a secondary educator experiences an increase in his/her levels of exhaustion, he/she is also likely to experience a related increase in his/her experience of depersonalisation. Recent studies amongst educators in Turkey and Australia confirm these findings (Demirel, Güler, Toktamis, Özdemir, & Sezer, 2005; Dorman, 2003). A South African study in the North West Province also confirms these findings (Jackson, 2004).

Exhaustion was also negatively related to Professional efficacy, Vigour, Dedication and Absorption. This could indicate that when secondary educators experience an increase in tiredness and fatigue, it impacts negatively on their feeling of commitment to their job and intentions to invest time and effort into their jobs. They might feel less effective in their jobs, as well as having less energy. This association is confirmed by previous research (Storm & Rothmann, 2004; Duran, Extremera, & Rey, 2004). Jackson (2004) also found a negative correlation between Exhaustion and Professional Efficacy amongst educators in the North West Province. The more overall fatigue an educator experiences, the less enthusiastic this employee is likely to become towards his/her job. Educators who feel tired, will be less prone to dedicate themselves to their work.

The negative relation between the experience of depersonalisation and the experience of vigour could indicate that the more educators detach themselves from their jobs, the less likely they are to channel energy into their jobs. Educators who distance themselves from the students will ultimately not be willing to exert their energy in meeting students' needs.

Educators who experience professional efficacy will also be prone to experience vigour, dedication and absorption. This indicates that the more effective an educator becomes in his/her job, the more energy he/she will have. Furthermore, educators who see themselves as effective in their job will dedicate themselves more to the teaching profession. Educators who experience a sense of professional efficacy should also become more absorbed in their jobs, and feel more attached to the teaching profession. Previous research (Duran et al., 2004) confirms the positive correlation between Professional Efficacy and the three engagement sub-scales.

The more energy the educators channel into their jobs, the greater the likelihood of becoming more dedicated and absorbed. Jackson (2004) also found a correlation between Vigour and Dedication amongst educators in the North West Province. The more willing one is to invest effort in one's work, the more attached one will become to one's work. Educators who are dedicated to their jobs could also use this dedication to motivate and inspire them to become more attached to their jobs. Previous studies (Jackson, Mostert, & Pienaar, 2004) also found positive correlations between the three Engagements constructs amongst students.

A limitation of this study was that it relied exclusively on self-report measures. This causes a particular problem in validation studies that use self-report measures exclusively because at least part of the common variance of the measures has to be attributed to method variance (Schaufeli, Enzmann, & Girault, 1993).

RECOMMENDATIONS

Based on the results of this study, it is recommended that the MBI-GS be used to assess burnout of educators in the Goldfield Region of the Free State Province. However, items 2 and 19 may be omitted when assessing burnout with the MBI-GS in a multi-lingual sample of educators, especially when first-language speakers of English or any African language are present.

Further more, it is also recommended that where the UWES is used to assess engagement of educators, items 10, 11 and 12 be omitted when administering this questionnaire to a multi-lingual sample.

Lastly, it is recommended that further studies with regards to biographical differences be conducted amongst educators in the Goldfields Region of the Free State Province, in order to profile educators at risk of developing burnout. Similarly, investigating biographical differences with regard to engagement could help in developing a profile of educators prone to job engagement.

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CHAPTER 3

ARTICLE 2

BIOGRAPHICAL DIFFERENCES REGARDING BURNOUT AND ENGAGEMENT AMONG SECONDARY SCHOOL TEACHERS IN THE GOLDFIELDS DISTRICT OF THE FREE STATE PROVINCE

D. van Wyk

ABSTRACT

The objective of this study was to determine if any significant differences regarding burnout and engagement levels of educators exist, based on various biographical categories such as gender, marital status, home language, age and years work experience. A cross-sectional survey design was used. A random sample (n = 469) was selected from educators in the Goldfield Region of the Northern Free State Province in South Africa. An adapted version of the MBI-GS, the UWES and a biographical questionnaire was administered. Biographical variables that can be used to describe burnout and engagement include the gender, marital status, home language, age and years work experience of educators.

OPSOMMING

Die doelstelling van hierdie studie was om te bepaal of daar enige beduidende verskille rakende die uitbrandings- en werksbegeesteringsvlakke van opvoeders bestaan, op grond van verskillende biografiese veranderlikes soos geslag, huwelikstatus, huistaal, ouderdom en jare werkservaring. 'n Dwarsdeursnee-opname-ontwerp is gebruik. 'n Ewekansige steekproef (n = 469) is geneem uit onderwysers in die Goudveldstreek van die Noordelike Vrystaat Provinsie in Suid Afrika. 'n Aangepaste weergawe van die MBI-GS, die UWES en 'n biografiese vraelys is geadministreer. Biografiese veranderlikes wat gebruik kan word om uitbranding en werksbegeestering te beskryf, sluit onder andere die geslag, huwelikstatus, huistaal, ouderdom en jare werkservaring van opvoeders in.

Global competition and the development of the service sector are affecting today's world of work. Mental demands are increasing (Merllie & Paoli, 2001), and these high levels of demand may lead to several stress reactions, such as burnout and depression (Schaufeli & Enzmann, 1998). Burnout is a metaphor that is used to describe a state or process of mental exhaustion (Schaufeli & Enzmann, 1998) that results from long-term involvement in work situations that are emotionally demanding (Schaufeli & Greenglass, 2001). Maslach and Jackson (1986) defined burnout as a syndrome of emotional exhaustion, depersonalisation and reduced personal accomplishment that can occur among individuals who do "people work" of some kind. Educators are typical of such a profession. They are in constant contact with learners, their troubles and the challenges they are faced with, everyday of the working week.

Educator stress and burnout have become topics of extensive discussion and research over the last few years. The burnout phenomenon has more often been discussed in relation to educators and education than in any other professional arena (Friedman, 2000). Educators' tasks are becoming more and more demanding, and it appears that they feel unable to carry on with their jobs on a more frequent basis (Evers, Brouwers, & Tomic, 2002). Van Horn and Van Dierendonck (1998) found that a considerable amount of educators experience feelings of exhaustion during their career.

International studies have highlighted the prevalence of burnout among educators. Studies in the Netherlands indicated that, in comparison with other careers, educators were the least able to cope with job-related workloads (Van Veldhoven & Broersen, 1999). Further Dutch studies indicate that 44% of the total number of disabled workers are educators. In more than half of those disabled, psychological complaints are the reason for the disability (Evers et al., 2002). Schaufeli and Enzmann (1998) indicated that psychological problems are increasingly connected to burnout. Stress and burnout among educators seems to be an international phenomenon, with research evidence emerging from Italy and France (Pedrabissi, Rolland, & Santinello, 1993), and Hong Kong and Germany (Schwarzer, Schmitz, & Tang, 1999).

The burnout phenomenon is also very prevalent among educators in South Africa. Mesthri (1999) indicated that stressful changes, such as population increases, diversity in school populations, increases in the cost of living, crime and its effect on student behaviour, changing conditions of service, new rules and regulations from the Department of Education, curriculum changes, performance appraisal systems and demands of unions are very common in the South African context. These stressful conditions could easily be associated with educator burnout.

The Maslach Burnout Inventory or MBI (Maslach & Jackson, 1981) is the most frequently used instrument in burnout research. It has been adapted to various occupational contexts, such as human services in the Maslach Burnout Inventory-General Survey or MBI-GS (Maslach & Schaufeli, 1993), university students in the Maslach Burnout-Student Survey or MBI-SS (Schaufeli, Salanova, González-Romá, & Bakker, 2002) and educators in the Maslach Burnout Inventory-Educator Survey or MBI-ES (Maslach, Jackson, & Schwab, 1996), as well as one for general application across occupational groups, the Maslach Burnout Inventory-General Survey or MBI-GS (Schaufeli, Leiter, Maslach, & Jackson, 1996).

The MBI-GS has previously been studied in South Africa. In the educational context, Jackson and Rothmann (2004) found that the MBI-GS' internal consistencies were satisfactory, where Exhaustion = 0,79; Cynicism = 0,64; Professional Efficacy = 0,73 and Depersonalisation = 0,60. Pienaar en Van Wyk (2006) also found satisfactory internal consistencies with the MBI-GS in the educational context (Exhaustion = 0,79; Cynicism = 0,69; Professional Efficacy = 0,83; Depersonalisation = 0,76). Maslach and Jackson (1986) suggested that Depersonalisation refers to the development of negative, impersonal and cynical attitudes towards and feelings about recipients of service, in which the employee treats others like objects. Exhaustion refers to the feeling of being emotionally overextended and drained by others, while Professional Efficacy refers to the decline in one's feelings of competence and successful achievement in work with people.

Carver, Scheier and Weintraub (2003) noted that people who cope by mentally disengaging themselves from situations, experience more emotional exhaustion and depersonalisation. Thus, according to Schaufeli (2003), Depersonalisation represents the specific interpersonal dimension of burnout, whereas Cynicism is more generic. The Depersonalisation dimension has previously shown better fit to the data for secondary educators in the Goldfields Region of the Free State Province than the Cynicism dimension (Van Wyk, 2004). The difference in focus is that Depersonalisation (from the MBI-HSS) describes a cynical attitude directed toward the recipients of one's service, whereas the Cynicism dimension (from the MBI-GS) describes a generally cynical attitude towards one's job, colleagues and organisation. According to Van Wyk (2004), it is worrying that the Depersonalisation construct showed better fit to the data than Cynicism, since it indicates the focused cynical attitude of educators towards other people, i.e. colleagues, learners and parents, and not the job in general.

A new trend that broadens the traditional concept and scope has recently emerged in burnout research (Maslach, Schaufeli, & Leiter, 2001). Researchers extended their interest to the positive pole of employees' well-being (engagement), rather than exclusively focusing on the negative pole (burnout). Thus, Maslach et al. (2001) rephrased burnout as the erosion of engagement with the job. This development indicates an

emerging trend towards a 'positive psychology', which in essence focuses on human strengths and optimal functioning, rather than on weaknesses and malfunctioning (Seligman & Csikszentmihalyi, 2000).

Schaufeli et al. (2002) defined Engagement as a positive, fulfilling, work-related state of mind that is characterised by vigour, dedication and absorption. Engagement refers to a more persistent and pervasive affective-cognitive state that is not focused on any particular job, event, individual or behaviour. Vigour refers to high levels of energy and mental resilience while working, as well as a willingness to exert effort and persistence, even through difficult situations. Dedication is described as a sense of significance, enthusiasm, inspiration, pride and challenge. Absorption refers to a tendency to concentrate fully on one's work and be so deeply engrossed in it that time passes quickly and one has difficulty detaching oneself from it. Absorption includes focused attention, a clear mind, mind-and-body unison, effortless concentration, complete control, loss of self-consciousness, distortion of time, and intrinsic enjoyment (Csikszentmihalyi, 1990). Schaufeli et al. (2002) developed the Utrecht Work Engagement Scale (UWES) to measure this new construct, and found acceptable reliability and validity for it in a study in Spain.

Regarding the psychometric qualities of the UWES, results show that the three engagement scales have sufficient internal consistencies (Schaufeli et al., 2002). For two different samples (Sample 1 = 314 undergraduate students; Sample 2 = 619 employees) respectively, the Cronbach alpha's were as follows: Vigour = 0,68 and 0,80; Dedication = 0,91 (both samples) and Absorption = 0,73 and 0,75. In the student sample, the alpha value for Vigour could be improved by eliminating three items (α = 0,78). The Engagement scales are moderately to strongly related, with the correlation between them 0,63 in Sample 1, and 0,70 in Sample 2. Also, the fit of the hypothesised three-factor model to the data is superior to a one-factor solution (Maslach et al., 2001; Schaufeli et al., 2002).

It is very important to use instruments that are reliable and valid to measure burnout and engagement. Following a confirmatory factor-analytical approach, Van Wyk (in press, A) found satisfactory Goodness-of-Fit statistics for a three-factor burnout-and-engagement model across three different groups of educators, based on home language (Afrikaans, English and African languages). With reliable and valid instruments, it is possible to determine if biographical variables play a role regarding work wellness, as measured by the burnout and engagement instruments.

Burnout, engagement and biographical variables

Associations between burnout and, to a lesser extent, engagement and biographical variables, have received considerable attention since the study of burnout started. Vredenburgh, Carlozzi and Stein (1999) found that age appears to have a consistent relationship with burnout. Younger employees seem more prone to burnout when compared to older employees, as the latter have better developed survival skills than their younger counterparts. Van Horn, Schaufeli and Enzmann (1999) also found that men are more prone to suffer from Depersonalisation than women. Furthermore, Greenglass, Burke and Konarski (1999) as cited in Gibelman (2003) found burnout to be more prevalent among single individuals than married ones. In previous South African research, Van der Linde, Van der Westhuizen and Wissing (1999) indicated that biographical variables such as years experience, language, marital status and work experience were all related to educator burnout.

Van Wyk (2004) confirmed that various variables can be used to describe educators suffering from burnout. For example, a persons' experience of burnout will have an impact on his/her perception of his/her own skills. Experiencing higher levels of burnout could make a person more vulnerable to the effects of stress, which might cause him/her to feel less effective in his/her job. This perceived ineffectiveness is reflected in a lower appraisal of his/her own skills. It has also been shown that educators who score higher on burnout are also those who show greater intent to leave the profession. Educators who believe that they do not have the right equipment for the job might also be prone to worry that they will not be able to perform their jobs effectively. This could lead to high levels of stress (Van Wyk, 2004). These findings highlight the necessity of treating educator burnout in order to keep qualified educators in service of the Department of Education (Van Wyk, 2004).

In related South African research, Jackson and Rothmann (2005) identified some biographical variables that were related to educator burnout in the North West Province. According to Jackson and Rothman (2005), educators who are 45 to 50 years old, experienced significantly lower levels of exhaustion when compared to younger educators (18 to 27 years), and those approaching retirement (older than 57 years). These results seem to suggest that burnout may be more prevalent among young entrant educators and those facing retirement.

Research on the Engagement construct, especially its relationship with biographical variables, is extremely limited. There is, however, other research that could indicate differences in psychological well-being and

biographical variables. Nell (1994) found that black workers have lower psychological well-being when compared to their white counterparts. This could be an indication that less/lower resistance resources are available in black communities. In a study done by Wissing and Van Eeden (2002), significant differences were also found between the scores of black and white individuals regarding psychological well-being.

Wissing and Van Eeden (2002) found clear differences in age and psychological well-being, with older people scoring higher on psychological well-being. According to Schaufeli and Bakker (2004), older employees are more engaged in their work than their younger counterparts. Wissing and Van Eeden (2002) also indicated that there are significant differences between the psychological well-being of men and women, with men measuring higher on psychological well-being. According to Sheridan, Mulhern and Martin (1999), women experience more psychosomatic symptoms when compared to men. Storm and Rothmann (2003) indicated that men experience higher levels of vigour and dedication when compared to women.

Hobfoll (1989) also puts forth the argument that women may have less access to resources that could help to buffer the negative effects of stress and maintain wellness. Coetzer (2004) indicated that educators who had the necessary job resources were more prone to engagement in their jobs than those who did not have the necessary job resources.

Finally, it might be argued that, since burnout and engagement are seen as related constructs that describe the psychological health of employees, one would expect similar relations for biographical variables and engagement than those that have been found for burnout. Based on the above discussion, one might for example expect mid-career employees to be more prone to engagement.

The above discussion leads to the following hypotheses:

H0: Significant differences regarding burnout and engagement levels do not exist between various biographical categories such as the gender, marital status, home language, age and years of work experience of educators in the Goldfields Region of the Northern Free State Province.

H1: Significant differences regarding burnout and engagement levels exist between various biographical categories such as the gender, marital status, home language, age and years of work experience of educators in the Goldfields Region of the Northern Free State Province.

METHOD

Research design

A cross-sectional survey design, where a sample is drawn from a population at one point in time (Shaughnessy & Zechmeister, 1997), was used to attain the research objectives. Schaufeli and Enzmann (1998) criticized the use of this design in burnout research, and recommend that experiments and longitudinal studies should be used when possible. But the obvious advantage of the cross-sectional approach is time, with the shortcoming of cohort effects. A cohort is a group of people born at the about the same time. If different cultural or age groups are compared, they do not only differ in terms of ethnicity or chronological age, but also in terms of the environments in which they were raised (Goodwin, 2002). The multi-cultural South African society with its politically divided past, surely acts to negate cohort effects.

Participants

Participants were randomly selected from the total population of educators in the Goldfield Region of the Northern Free State Province. A sample of 469 educators was taken from the total population of 1014. Schools in the Goldfields Region of the Northern Free State Province were randomly selected from an alphabetical list of school names, and all educators at said schools were asked to complete the questionnaire. Completed questionnaires were to be given to the principals, from whom the questionnaires were collected at a pre-determined date. The Director-General of the Free State Department of Education granted permission to conduct the study. The formula proposed by Kerlinger and Lee (2000) was used to determine the sample size for this study:

$$n' = \frac{n}{1 + \frac{n}{N}}$$

and

$$n = \frac{z^2 \times SD^2}{d^2}$$

where n' = estimated sample size; n = the estimated sample size using the formula; N = the size of the population; z = standard score corresponding to the specified probability of risk; SD = the standard deviation of the population, and d = the specified deviation.

The values for *z*, *SD* and *d* that were used in the current research, are the same as those that were used for previous studies of burnout in South Africa (Storm & Rothmann, 2002; Sieberhagen & Pienaar, 2004), and specifically the teaching profession (Jackson, 2004; Van der Linde et al., 1999). It is impotant that the schools should be selected randomly in order to draw accurate conclusions about the entire group of interest (Spector, 2000).

Table 1 presents some of the biographical characteristics of the participants.

Table 1

Characteristics of the Participants (*N*=469)

Variable	Category	Frequency	Percentage*
Gender	Male	184	39,48
	Female	282	60,54
Marital status	Single	58	12,53
	Engaged	81	17,49
	Married	255	55,08
	Divorced	43	9,29
	Separated	20	4,32
	Remarried	6	1,30
Home language	Afrikaans	185	39,60
	English	80	17,02
	African language	204	43,60
Age	22-30 years	102	24,70
	31-36 years	107	25,90
	37-46 years	117	28,30
	47-64 years	87	21,10
Years experience	0-6 years	119	28,30
	7-12 years	109	26,00
	13-20 years	97	23,10
	20+ years	95	22,60

* Where totals do not equal 100, this is due to missing values.

The mean age of participants was 37,58 years, with a standard deviation of 9,08 (28,46 – 46,62 years old), while the mean years of experience was 13,04, with a standard deviation of 8,89 (4,15 – 21,93 years of experience). Most participants' (39,6%) indicated that their home language was an African language, whilst only 17,02% of the participant's indicated that their home language was English. There is a marginal difference between the participants and the total population, as 25,4% of the population of educators in the Goldfields Region of the Free State Province are Afrikaans, 3,49% English and 71,12% are speaking an

African language (J. B. Deacon, Administrator, Free State Education Department, personal communication, January 24, 2006). Regarding the gender of the participants, 60,52% were female. This closely represents the population of educators in the Goldfields Region of the Free State Province, where 66% of the educators are female, and 34% are male. Of the total sample, 28,3% of the participants were between the age of 37 and 46, whilst only 21,1% of the population are between the age of 47 and 64. Regarding the years of experience, 28,30% of the population has up to 6 years of experience, whilst 22,60% of the participants have 20 or more years of experience. Of all participants, 55,08% were married and only 9,29% of the participants were divorced. Only 1,3% of the participants indicated that they have remarried.

Measuring battery

Three measuring instruments were used in the study. The Maslach Burnout Inventory – General Survey or MBI-GS (Schaufeli et al., 1996), the Utrecht Work Engagement Scale or UWES (Schaufeli et al., 2002) and a biographical questionnaire were administered to attain the research objectives.

An adapted version of the *Maslach Burnout Inventory – General Survey (MBI-GS)* (Schaufeli et al., 1996) was used to measure respondents' relationships with their work. The MBI-GS has three subscales: Exhaustion (Ex) (five items; e.g. "I feel used up at the end of the workday"), Cynicism (Cy) (five items; e.g. "I have become less enthusiastic about my work") and Professional Efficacy (PE) (six items; e.g. "In my opinion, I am good at my job"). Together the subscales of the MBI-GS provide a three-dimensional perspective on burnout. Test-retest reliabilities after one year were 0,65 (Exhaustion), 0,60 (Cynicism) and 0,67 (Professional Efficacy) (Schaufeli et al., 1996). All items are scored on a 7-point frequency rating scale ranging from 0 ("never") to 6 ("daily"). High scores on Ex and Cy, and low scores on PE are indicative of burnout. Depersonalisation (from the *MBI-Health Services Survey*, Maslach & Jackson, 1986) describes an unfeeling and impersonal response towards recipients of one's care or service. Although the Depersonalisation and Cynicism constructs can be said to be related, Depersonalisation presents a more specific interpersonal focus than Cynicism, which refers to a general attitude of cynicism regarding work, the employing organisation, colleagues, or the recipients of ones' service. Test-retest reliability ranging from three months to one year has been reported in the range of 0,50 to 0,82 (Leiter & Durup, 1994). The MBI-GS was found to be psychometrically-sound in the Goldfields Region of the Freestate (Van Wyk, in press, A).

The *Utrecht Work Engagement Scale (UWES)* (Schaufeli et al., 2002) was used to measure the levels of engagement. Although work engagement is conceptually seen as the positive antithesis of burnout, it is

operationalised in its own right. Work engagement is a concept that has three dimensions: Vigour, Dedication and Absorption. Engaged workers are characterised by high levels of vigour and dedication, and they are immersed in their jobs. It is an empirical question whether engagement and burnout are endpoints of the same continuum or if they are two distinct, but related concepts. The UWES is scored on a seven-point frequency rating scale, varying from 0 ("never") to 6 ("always"). The alpha coefficients for the three sub-scales varied between 0,68 and 0,91. The alpha coefficient could be improved (α varies between 0,78 and 0,89 for the three sub-scales) by eliminating a few items without substantially decreasing the scale's internal consistency. Van Wyk (in press, A) found satisfactory Goodness-of-Fit statistics for the UWES.

A biographical questionnaire, in which participants were requested to supply their age, gender, marital status, years of experience and home language, was also administered.

Statistical Analysis

The statistical analysis was carried out with the help of the SPSS-program (SPSS, 2003). The SPSS-program was used to carry out statistical analysis regarding the reliability and validity of the measuring instruments, descriptive statistics, t-tests, analysis of variance and correlation coefficients. Descriptive statistics, e.g. means, standard deviations, range, skewness and kurtosis, and inferential statistics were used to analyse the data. Pearson product-moment correlation coefficients were used to specify the relationships between the variables. A cut-off point of $d = 0,30$ (medium effect) was set for the practical significance of correlation coefficients (Cohen, 1988).

When multiple (more than two) categorical variables were used as a predictor, a process of dummy coding was used. By using dummy coding, one can represent groups of people using only zeros and ones. This is done by creating several variables. Regarding gender, marital status and home language, the distribution as indicated by participants was used to create categories. Since too few participants indicated their status as 'separated' or 'remarried', they were discarded for this analysis. Regarding participants' age and years of service, categories were formed based on the frequency distribution of the variables. For each category, the total sample was divided into four groups in order to create four roughly equal quarter categories (see Table 1). When using dummy variables in a regression analysis, one group is always used as the referent. Thus, groups are not constantly compared to each other, but all groups are rather compared to one other.

RESULTS

The descriptive statistics and alpha coefficients of the MBI-GS and UWES for the full sample are given in Table 2.

Table 2

Descriptive Statistics and Alpha Coefficients of the MBI-GS and UWES

Item	Mean	SD	Skewness	Kurtosis	α
MBI-GS					
Emotional Exhaustion	10,62	3,98	-0,24	0,27	0,69
Depersonalisation	8,58	4,20	-0,40	-0,18	0,70
Professional Efficacy	21,19	5,43	0,31	-0,80	0,73
UWES					
Vigour	12,09	3,30	0,11	0,30	0,67
Dedication	12,22	3,88	0,46	-0,50	0,78
Absorption	12,46	3,46	0,37	-0,33	0,61

The scores on the three factors of the MBI-GS are normally distributed. The Cronbach alpha coefficients for Depersonalisation, Professional Efficacy and Dedication are considered to be acceptable compared to the guideline of $\alpha > 0,70$ (Nunnally & Bernstein, 1994). The Cronbach alpha coefficients for Emotional Exhaustion, Vigour and Absorption compared reasonably well with the guideline of 0,70, considering that it is estimated for the total sample (Nunnally & Bernstein, 1994). The reliabilities of these subscales have previously been investigated for the separate language groups (Van Wyk, in press A), and were deemed acceptable.

Product-moment correlations between the demographic variables, burnout and work-engagement constructs are shown in Table 3. For the purpose of correlations, we made use of the categories that were described in Table 1. Non-sense correlations were not computed (for example gender by language).

Table 3

Product-Moment Correlation Coefficients between the MBI-GS, UWES and Biographical Variables

Item	A	YE	L	St	G	VIG	DE	ABS	EX	DEP	PE
YE	0,93*++	-									
VIG	0,03	-0,01	-0,00	-0,14*	-0,14*	-					
DE	0,07	0,04	-0,03	-0,11*	-0,02	0,73*++	-				
ABS	0,06	0,10	-0,07	-0,06	0,01	0,54*++	0,58*++	-			
EX	0,03	0,03	-0,13*	-0,03	0,07	-0,17*	-0,12*	0,02	-		
DEP	-0,08	-0,08	0,00	0,13*	0,01	-0,22*	-0,28*	-0,20*	0,25*	-	
PE	0,16*	0,18*	-0,14*	0,15*	0,01	0,55*++	0,68*++	0,61*++	0,01	-0,34*+	-

A=Age; YE=Years Experience; L=Language; St=Status; G=Gender; VIG=Vigour; DE=Dedication; ABS=Absorption; EX=Exhaustion; DEP=Depersonalisation; PE=Professional efficacy.

* Statistically-significant correlation: $p \leq 0.05$

+ Practically-significant $r > 0.30$ (medium effect)

++ Practically-significant $r > 0.50$ (large effect)

Years experience showed a statistically-significant correlation (practically-significant, large effect) with Age. A negative statistically-significant correlation was found between Vigour and Status as well as Vigour and Gender. Dedication showed a positive statistically-significant correlation (practically-significant, large effect) with Vigour, and a negative statistically-significant correlation with Status. A positive statistically-significant correlation (practically-significant, large effect) was found between Absorption on the one hand, and Dedication and Vigour on the other. Exhaustion showed a negative statistically-significant correlation with Language, Vigour and Dedication. Depersonalisation showed a positive statistically-significant correlation with Status and Exhaustion, but negative statistically-significant correlations with Vigour, Dedication and Absorption. A positive statistically-significant correlation was found between Professional Efficacy and Age, Years Experience, Status, Vigour (practically-significant, large effect), Dedication (practically-significant, large effect) and Absorption (practically-significant, large effect), and a negative statistically-significant correlation with Language and Depersonalisation (practically-significant, medium effect).

The results of a multiple regression analysis with Exhaustion as dependent variable, and gender, language, age, marital status and years experience as independent variables are reported in Table 4.

Table 4

Multiple Regression Analysis with Exhaustion as Dependent Variable

Model		Unstandardized Coefficients		Standardized Coefficients	*t*	*p*	*F*	*R*	R^2	ΔR^2
		B	SE	Beta						
1	(Constant)	9,41	0,72		13,07	0,00	4,13	0,11	0,01	0,01
	Female	0,87	0,43	0,11	2,03	0,04*				
2	(Constant)	10,00	0,78		12,77	0,00	2,84	0,16	0,02	0,02
	Female	0,76	0,43	0,10	1,77	0,08				
	English-speaking	-0,17	0,60	-0,02	-0,28	0,78				
	African-language-speaking	-0,94	0,46	-0,12	-2,02	0,04*				
3	(Constant)	9,92	0,91		10,90	0,00	1,44	0,16	0,03	0,01
	Female	0,78	0,44	0,10	1,78	0,08				
	English-speaking	-0,15	0,60	-0,02	-0,25	0,80				
	African-language-speaking	-0,90	0,48	-0,11	-1,86	0,06				
	31-36 years old	-0,08	0,61	-0,01	-0,14	0,89				
	37-46 years old	0,16	0,58	0,02	0,28	0,78				
	47-64 years old	0,05	0,63	0,01	0,08	0,93				
4	(Constant)	10,54	1,00		10,52	0,00	1,33	0,19	0,03	0,01
	Female	0,86	0,44	0,11	1,96	0,05*				
	English-speaking	-0,11	0,61	-0,01	-0,18	0,86				
	African-language-speaking	-0,84	0,49	-0,11	-1,72	0,09				
	31-36 years old	0,05	0,61	0,01	0,08	0,93				
	37-46 years old	0,34	0,59	0,04	0,58	0,57				
	47-64 years old	0,21	0,65	0,02	0,32	0,75				
	Engaged	-1,28	0,79	-0,12	-1,62	0,11				
	Married	-0,89	0,68	-0,11	-1,31	0,19				
	Divorced	-1,37	0,87	-0,12	-1,57	0,12				
5	(Constant)	10,69	1,01		10,60	0,00	1,24	0,21	0,04	0,01
	Female	0,79	0,44	0,10	1,78	0,08				
	English-speaking	-0,13	0,61	-0,01	-0,22	0,83				
	African-language-speaking	-0,74	0,49	-0,09	-1,52	0,13				
	31-36 years old	-0,43	0,83	-0,05	-0,52	0,60				
	37-46 years old	-0,84	1,02	-0,10	-0,83	0,41				
	47-64 years old	-0,40	1,25	-0,04	-0,32	0,75				
	Engaged	-1,37	0,80	-0,13	-1,72	0,09				
	Married	-1,02	0,68	-0,13	-1,49	0,14				
	Divorced	-1,50	0,87	-0,13	-1,72	0,09				
	7-12 years	0,58	0,78	0,06	0,74	0,46				
	13-20 years	1,56	1,01	0,17	1,55	0,12				
	20+ years	0,59	1,20	0,06	0,49	0,62				

* $p \leq 0,05$

Table 4 shows that in step 1, one percent of the variance in exhaustion can be predicted by gender. Step 2 shows that African-language speakers differed statistically significantly from the Afrikaans-language

speakers in terms of Exhaustion. The negative standardized beta coefficient indicates that participants from the African-language group measure lower on exhaustion when compared to the Afrikaans-language group. Adding participants' age to the analysis did not improve the variance explained. However, in step 4, when the marital status of participants was considered, female gender was again a significant predictor of exhaustion. When all biographical categories were considered together, none were associated with exhaustion.

The results of a multiple regression analysis with Depersonalisation as dependent variable, and gender, language, age, marital status and years experience as independent variables are reported in Table 5.

Table 5

Multiple Regression Analysis with Depersonalisation as Dependent Variable

Model		Unstandardized Coefficients		Standardized Coefficients	*t*	*p*	*F*	*R*	R^2	ΔR^2
		B	SE	Beta						
1	(Constant)	8,04	0,74		10,82	0,00	0,79	0,05	0,00	-,00
	Female	0,40	0,45	0,05	0,89	0,37				
2	(Constant)	8,15	0,82		9,91	0,00	0,29	0,05	0,00	-0,01
	Female	0,38	0,45	0,05	0,84	0,40				
	English-speaking	-0,10	0,62	-0,01	-0,16	0,87				
	African-language-speaking	-0,15	0,49	-0,02	-0,30	0,76				
3	(Constant)	9,10	0,95		9,63	0,00	1,40	1,56	0,02	0,01
	Female	0,28	0,45	0,03	0,63	0,53				
	English-speaking	-0,23	0,62	-0,02	-0,37	0,71				
	African-language speaking	-0,15	0,50	-0,02	-0,29	0,77				
	31-36 years old	-0,81	0,63	-0,09	-1,28	0,20				
	37-46 years old	-1,59	0,60	-0,18	-2,64	0,01**				
	47-64 years old	-0,47	0,66	-0,05	-0,72	0,47				
4	(Constant)	8,99	1,03		8,71	0,00	1,59	0,20	0,04	0,02
	Female	0,17	0,45	0,02	0,37	0,71				
	English-speaking	-0,35	0,62	-0,03	-0,57	0,57				
	African-language-speaking	-0,23	0,50	-0,03	-0,45	0,65				
	31-36 years old	-0,97	0,64	-0,10	-1,52	0,13				
	37-46 years old	-1,82	0,61	-0,21	-2,96	0,00**				
	47-64 years old	-0,68	0,67	-0,07	-1,02	0,31				
	Engaged	-0,27	0,81	-0,03	-0,33	0,74				
	Married	0,61	0,69	0,07	0,88	0,38				
	Divorced	1,61	0,89	0,13	1,81	0,07				
5	(Constant)	9,32	1,03		9,04	0,00	1,90	0,25	0,06	0,03
	Female	0,04	0,45	0,00	0,08	0,94				
	English-speaking	-0,41	0,62	-0,04	-0,66	0,51				
	African-language-speaking	-0,12	0,50	-0,01	-0,23	0,82				
	31-36 years old	-1,07	0,82	-0,12	-1,31	0,19				
	37-46 years old	-3,20	1,02	-0,36	-3,15	0,00**				
	47-64 years old	-0,83	1,26	-0,08	-0,66	0,51				
	Engaged	-0,39	0,80	-0,04	-0,49	0,63				
	Married	0,41	0,69	0,05	0,60	0,55				
	Divorced	1,37	0,89	0,11	1,55	0,12				
	7-12 years	-0,05	0,77	-0,01	-0,06	0,95				
	13-20 years	2,04	1,01	0,21	2,01	0,05*				
	20+ years	-0,00	1,21	0,00	-0,00	1,00				

* $p \leq 0,05$

** $p \leq 0,01$

Table 5 indicates in steps 1 and 2 that neither gender nor home language had any significant predictive value with regard to depersonalisation. However, in step 3 it can be seen that educators between the ages of 37 and 46 measure lower on depersonalisation (as indicated by the negative standardized beta coefficient) than educators between the age of 22 and 30 years. This relationship remained statistically-significant, even after adding marital status and years of work experience into the regression predicting depersonalisation of educators. In step 5 it can also be seen that at a lower level of significance, participants who have been working as educators for between 13 and 20 years, have higher levels of depersonalisation (as indicated by a positive standardised beta coefficient) than participants with 6 or less years of experience.

The results of a multiple regression analysis with Professional Efficacy as dependent variable, and gender, language, age, marital status and years experience as independent variables are reported in Table 6.

Table 6

Multiple Regression Analysis with Professional Efficacy as Dependent Variable

Model		Unstandardized Coefficients		Standardized Coefficients	*t*	*p*	*F*	*R*	R^2	ΔR^2
		B	SE	Beta						
1	(Constant)	20,63	1,00		20,69	0,00	0,29	0,03	0,00	-0,00
	Female	0,32	0,59	0,03	0,54	0,59				
2	(Constant)	21,69	1,08		20,16	0,00	3,24	0,17	0,03	0,02
	Female	0,24	0,59	0,02	0,40	0,69				
	English-speaking	-2,35	0,81	-0,17	-2,91	0,00**				
	African-language-speaking	-1,27	0,63	-0,12	-2,01	0,05*				
3	(Constant)	19,59	1,22		16,03	0,00	4,27	0,26	0,07	0,05
	Female	0,43	0,58	0,04	0,74	0,46				
	English-speaking	-2,15	0,80	-0,15	-2,69	0,01**				
	African-language-speaking	-1,32	0,64	-0,12	-2,06	0,04*				
	31-36 years old	2,50	0,81	0,21	3,01	0,00**				
	37-46 years old	1,64	0,78	0,14	2,10	0,04*				
	47-64 years old	3,04	0,84	0,23	3,62	0,00**				
4	(Constant)	20,90	1,32		15,83	0,00	4,41	0,32	0,11	0,08
	Female	0,64	0,58	0,06	1,11	0,27				
	English-speaking	-1,80	0,80	-0,13	-2,27	0,02*				
	African-language-speaking	-1,15	0,64	-0,11	-1,81	0,07				
	31-36 years old	2,96	0,81	0,24	3,66	0,00**				
	37-46 years old	2,27	0,79	0,19	2,87	0,00**				
	47-64 years old	3,71	0,85	0,28	4,36	0,00**				
	Engaged	-1,21	1,04	-0,08	-1,16	0,25				
	Married	-2,79	0,88	-0,26	-3,15	0,00**				
	Divorced	-3,15	1,13	-0,20	-2,80	0,01*				
5	(Constant)	20,90	1,32		15,78	0,00	3,64	0,34	0,12	0,08
	Female	0,58	0,58	0,05	1,00	0,32				
	English-speaking	-1,77	0,79	-0,13	-2,24	0,03*				
	African-language-speaking	-1,09	0,64	-0,10	-1,70	0,09				
	31-36 years old	1,74	1,08	0,14	1,62	0,11				
	37-46 years old	1,53	1,33	0,13	1,16	0,25				
	47-64 years old	3,73	1,64	0,29	2,28	0,02*				
	Engaged	-1,30	1,04	-0,09	-1,24	0,22				
	Married	-2,84	0,89	-0,26	-3,20	0,00**				
	Divorced	-3,28	1,13	-0,20	-2,90	0,00**				
	7-12 years	1,77	1,01	0,14	1,75	0,08				
	13-20 years	0,95	1,31	0,08	0,73	0,47				
	20+ years	-0,06	1,58	-0,01	-0,04	0,97				

* $p \leq 0.05$

** $p \leq 0.01$

When comparing different biographical categories in terms of Professional Efficacy, it can be seen in step 2 that both the English and African-language groups measure statistically lower on Professional Efficacy than the Afrikaans-language group. In step 3, it can be seen that language remains a significant predictor of

Professional Efficacy, and that participants who are older than 31 years of age measure higher on Professional Efficacy than those who are younger than 31. In step 4, speaking English as home language, and being older than 31 years of age predicts Professional Efficacy. Additionally, being married or divorced means that participants measure lower on Professional Efficacy (as indicated by the negative standardised beta coefficient), when compared to their single counterparts. In the final step, English-language speakers measure lower on Professional Efficacy when compared to Afrikaans-language speakers. The oldest educators measure higher on Professional Efficacy when compared to the youngest, and married and divorced educators measure lower on Professional Efficacy when compared to single educators.

The results of a multiple regression analysis with Vigour as dependent variable, and gender, language, age, marital status and years experience as independent variables are reported in Table 7.

Table 7

Multiple Regression Analysis with Vigour as Dependent Variable

Model		Unstandardized Coefficients		Standardized Coefficients	*t*	*p*	*F*	*R*	R^2	ΔR^2
		B	SE	Beta						
1	(Constant)	13,64	0,59		23,02	0,00	7,63	0,15	0,02	0,02
	Female	-0,98	0,35	-0,15	-2,76	0,01**				
2	(Constant)	13,48	0,65		20,86	0,00	3,72	0,18	0,03	0,02
	Female	-0,91	0,36	-0,14	-2,55	0,01**				
	English-speaking	-0,55	0,49	-0,06	-1,11	0,27				
	African-language-speaking	0,37	0,38	0,06	0,96	0,34				
3	(Constant)	13,32	0,75		17,69	0,00	2,09	0,19	0,04	0,02
	Female	-0,90	0,36	-0,14	-2,50	0,01**				
	English-speaking	-0,55	0,49	-0,07	-1,11	0,27				
	African-language-speaking	0,31	0,40	0,05	0,76	0,45				
	31-36 years old	0,46	0,50	0,06	0,92	0,36				
	37-46 years old	-0,04	0,48	-0,01	-0,07	0,94				
	47-64 years old	0,28	0,52	0,04	0,54	0,59				
4	(Constant)	13,87	0,82		16,86	0,00	1,83	0,22	0,05	0,02
	Female	-0,86	0,36	-0,13	-2,38	0,02*				
	English-speaking	-0,43	0,50	-0,05	-0,86	0,39				
	African-language-speaking	0,36	0,40	0,05	0,89	0,37				
	31-36 years old	0,62	0,51	0,08	1,23	0,22				
	37-46 years old	0,15	0,49	0,21	0,30	0,76				
	47-64 years old	0,48	0,53	0,06	0,91	0,36				
	Engaged	-0,60	0,65	-0,07	-0,93	0,36				
	Married	-1,04	0,54	-0,16	-1,92	0,06				
	Divorced	-0,78	0,70	-0,08	-1,11	0,27				
5	(Constant)	13,90	0,83		16,77	0,00	1,59	0,23	0,05	0,02
	Female	-0,89	0,36	-0,13	-2,44	0,02*				
	English-speaking	-0,42	0,50	-0,05	-0,83	0,41				
	African-language-speaking	0,33	0,40	0,05	0,82	0,42				
	31-36 years old	0,40	,070	0,05	0,58	0,56				
	37-46 years old	0,49	0,87	0,07	0,56	0,58				
	47-64 years old	1,47	1,08	0,18	1,36	0,17				
	Engaged	-0,63	0,65	-0,07	-0,96	0,34				
	Married	-1,00	0,54	-0,15	-1,83	0,07				
	Divorced	-0,80	0,71	-0,08	-1,14	0,26				
	7-12 years	0,34	0,66	0,05	0,51	0,61				
	13-20 years	-0,32	0,88	-0,04	-0,37	0,71				
	20+ years	-1,11	1,04	-0,14	-1,08	0,28				

* $p \leq 0.05$

Table 7 shows that in all 5 steps, female educators measure significantly lower on Vigour than their male counterparts. Adding other variables to the data did not indicate any statistically significant predictors. It could be seen in step 2 that gender predicted 3% of the variance in Vigour, but adding variables like age and

marital status improved the prediction by 2%. Adding educators' years of work experience did not improve the prediction in the variance in Vigour.

The results of a multiple regression analysis with Dedication as dependent variable, and gender, language, age, marital status and years experience as independent variables are reported in Table 8.

Table 8

Multiple Regression Analysis with Dedication as Dependent Variable

Model		Unstandardized Coefficients		Standardized Coefficients	*t*	*p*	*F*	*R*	R^2	ΔR^2
		B	SE	Beta						
1	(Constant)	12,34	0,71		17,48	0,00	0,13	0,02	0,00	-0,00
	Female	-0,15	0,42	-0,02	-0,36	0,72				
2	(Constant)	12,22	0,77		15,89	0,00	0,64	0,08	0,01	-0,00
	Female	-0,09	0,42	-0,01	-0,21	0,83				
	English-speaking	-0,50	0,58	-0,05	-0,87	0,39				
	African-language-speaking	0,28	0,45	0,04	0,63	0,53				
3	(Constant)	11,68	0,89		13,11	0,00	1,20	0,14	0,02	0,00
	Female	-0,05	0,42	-0,01	-0,12	0,90				
	English-speaking	-0,41	0,58	-0,04	-0,71	0,48				
	African-language-speaking	0,34	0,47	0,04	0,72	0,48				
	31-36 years old	0,59	0,59	0,07	1,00	0,32				
	37-46 years old	0,09	0,57	0,01	0,16	0,87				
	47-64 years old	1,22	0,61	0,13	2,01	0,05*				
4	(Constant)	12,52	0,97		12,87	0,00	1,64	0,20	0,04	0,02
	Female	0,01	0,43	0,00	0,03	0,98				
	English-speaking	-0,23	0,58	-0,02	-0,39	0,69				
	African-language-speaking	0,41	0,47	0,05	0,89	0,38				
	31-36 years old	0,87	0,60	0,10	1,46	0,15				
	37-46 years old	0,41	0,58	0,05	0,71	0,48				
	47-64 years old	1,55	0,62	0,17	2,51	0,01*				
	Engaged	-0,76	0,76	-0,07	-1,00	0,32				
	Married	-1,63	0,64	-0,21	-2,54	0,01*				
	Divorced	-1,35	0,82	-0,12	-1,65	0,10				
5	(Constant)	12,58	0,98		12,85	0,00	1,47	0,22	0,05	0,02
	Female	-0,05	0,43	-0,01	-0,12	0,91				
	English-speaking	-0,22	0,58	-0,02	-0,38	0,71				
	African-language-speaking	0,42	0,47	0,05	0,88	0,38				
	31-36 years old	0,27	0,79	0,03	0,34	0,73				
	37-46 years old	0,19	0,99	0,02	0,20	0,85				
	47-64 years old	2,03	1,19	0,22	1,70	0,09				
	Engaged	-0,81	0,76	-0,08	-1,07	0,29				
	Married	-1,65	0,64	-0,21	-2,56	0,01*				
	Divorced	-1,43	0,83	-0,13	-1,73	0,09				
	7-12 years	0,88	0,74	0,10	1,19	0,24				
	13-20 years	0,38	1,00	0,04	0,38	0,71				
	20+ years	-0,56	1,15	-0,06	-0,49	0,62				

* $p \leq 0.05$

Table 8 indicates in steps 1 and 2 that neither gender nor language had any significant effects in terms of dedication. However, in step 3 it can be seen that educators between the ages of 47 and 64 measure higher on dedication than educators between the age of 22 and 30 years. Being in the 47-64 year old category predicts

2% of the variance in dedication. This relationship remained statistically-significant, even after adding marital status in step 4. In step 4, it can be seen that married educators measured statistically-significantly lower on dedication when compared to single educators (as indicated by the negative standardized beta coefficient). This relationship is also evident in step 5. Adding years experience improved the prediction of the variance in dedication from 4% to 5%.

The results of a multiple regression analysis with Absorption as dependent variable, and gender, language, age, marital status and years experience as independent variables are reported in Table 9.

Table 9

Multiple Regression Analysis with Absorption as Dependent Variable

Model		Unstandardized Coefficients		Standardized Coefficients	*t*	*p*	*F*	*R*	R^2	ΔR^2
		B	SE	Beta						
1	(Constant)	12,40	0,63		19,68	0,00	0,01	0,01	0,00	0,00
	Female	-0,03	0,38	-0,01	-0,09	0,93				
2	(Constant)	12,61	0,69		18,21	0,00	0,19	0,04	0,00	0,00
	Female	-0,06	0,38	-0,01	-0,16	0,87				
	English-speaking	-0,31	0,53	-0,03	-0,59	0,56				
	African-language-speaking	-0,27	0,41	-0,04	-0,66	0,51				
3	(Constant)	12,35	0,80		15,37	0,00	1,03	0,13	0,02	0,02
	Female	-0,05	0,38	-0,01	-0,12	0,91				
	English speaking	-0,29	0,53	-0,03	-0,54	0,59				
	African language speaking	-0,28	0,42	-0,04	-0,67	0,50				
	31-36 years old	0,54	0,53	0,07	1,03	0,31				
	37-46 years old	-0,26	0,51	-0,04	-0,52	0,60				
	47-64 years old	0,84	0,55	0,10	1,52	0,13				
4	(Constant)	12,79	0,89		14,42	0,00	1,08	0,17	0,03	0,01
	Female	-0,03	0,38	-0,00	-0,08	0,94				
	English-speaking	-0,19	0,53	-0,02	-0,35	0,72				
	African-language-speaking	-0,25	0,42	-0,04	-0,60	0,55				
	31-36 years old	0,68	0,53	0,87	1,27	0,20				
	37-46 years old	-0,11	0,52	-0,02	-0,22	0,83				
	47-64 years old	1,02	0,56	-0,03	1,82	0,07				
	Engaged	-0,28	0,69	-0,03	-0,41	0,68				
	Married	-0,90	0,59	-0,13	-1,53	0,13				
	Divorced	-0,33	0,75	-0,03	-0,44	0,66				
5	(Constant)	12,89	0,89		14,54	0,00	1,38	0,22	0,05	0,02
	Female	-0,10	0,38	-0,02	-0,27	0,79				
	English-speaking	-0,21	0,53	-0,02	-0,40	0,69				
	African-language-speaking	-0,12	0,42	-0,02	-0,29	0,77				
	31-36 years old	-0,14	0,71	-0,02	-0,19	0,85				
	37-46 years old	-1,89	0,87	-0,25	-2,17	0,03*				
	47-64 years old	-0,48	1,08	-0,06	-0,44	0,66				
	Engaged	-0,35	0,68	-0,04	-0,51	0,61				
	Married	-1,04	0,59	-0,15	-1,77	0,07				
	Divorced	-0,48	0,75	-0,05	-0,64	0,52				
	7-12 years	1,03	0,67	0,13	1,55	0,12				
	13-20 years	2,23	0,86	0,28	2,58	0,01*				
	20+ years	1,60	1,03	0,19	1,54	0,12				

* $p \leq 0.05$

Table 9 indicates, from steps 1 to 4, that gender, language, age and marital status had no significant predictive value with regard to absorption. However, in step 5, older educators, who are between the ages of 37 and 46, experience significantly less absorption than their younger counterparts between the ages of 22

and 30. This is indicated by the negative standardized beta coefficient. Step 5 also indicated that educators who had between 13 to 20 years of experience, experience significantly more absorption than those with up to 6 years of experience. Being between 37 and 46 years old, and having between 13 and 20 years of experience, predicted 5% of the variance in Absorption.

DISCUSSION

The main aim of this study was to determine if significant differences regarding burnout and engagement exist, based on various biographical categories such as the age, gender, marital status, years experience and home language, of educators in the Goldfields Region of the Northern Free State Province.

Multiple regression analysis showed that female educators experience more fatigue and feelings of being drained by their work when compared to their male counterparts. This might be due to the fact that female educators are also the caretakers of their homes. They are burdened with the double load of being an educator, as well as a wife and mother. The economy of the Goldfield Region of the Free State Province is driven by mining, and many men are working on the mines. With the fluctuating gold price and greater job insecurity faced by men, women might feel more obliged to make a financial contribution to the household. This added pressure to ensure the viability of the family unit may just cause them to feel more exhausted.

The correlations also indicated a relationship between language and participants' levels of exhaustion. In predicting the experience of exhaustion, African-language-speaking educators are less prone to it than their Afrikaans-speaking counterparts. This can be attributed to the fact that Afrikaans-speaking educators might feel that they are under more pressure to keep their jobs, as employment equity legislation requires schools to employ previously disadvantaged (African, Coloured or Indian and/or female) educators, whereas the Afrikaans-speaking group mostly benefited from apartheid legislation.

Educators between the ages of 37 and 46 develop less negative and impersonal attitudes and feelings towards the learners than those who are between the ages of 22 and 30. This could be an indication that educators who are older have more maturity, and are able to be more involved with their learners and will not distance themselves from their learners. Young educators are usually very optimistic when they join this profession, but soon they are faced with challenges in the education system, which leads to disillusionment. Jackson (2004) found similar results among educators in the North West Province. Although the correlations

indicated a relationship between feelings of depersonalisation and marital status, the latter variable had no effect when gender, language and age were entered before it in the regression analysis.

Afrikaans-speaking participants experienced more feelings of achievement in the working environment than those who indicated that English or an African language were their home language. Most of the educators in the Goldfields Region of the Northern Free State Province are Afrikaans-speaking, therefore this language group may have a better network for support and achievement, and experience cyclical feelings of effectiveness. Educators who are over the age of 31 also experience more feelings of achievement. This could once again be attributed to their maturity, which would mean that they would become more effective as they get older. Greater age may also imply that they have more work experience, which would explain a greater experience of efficacy in their work. When compared to single individuals, those who are married or divorced also experience less professional efficacy. This could be attributed to single educators (who are also typically younger) placing greater emphasis on their careers, thus focusing on becoming more effective, whereas married educators may be prone to experiencing greater interference from families, and cannot afford so much attention to their careers. People who have been through divorce generally show lower mental/psychological health (Acker, 2003), and this finding is again underlined here with the finding that single educators show greater professional efficacy when compared to divorced educators.

Female educators experience significantly less energy than their male counterparts. This could be attributed to various factors – one being that female educators have to divide their available energy between home and work. Male educators could also experience more energy because they might have access to more resources, since most senior level positions are still filled by males. Storm and Rothmann (2003) also found similar results in their study of police officers.

Educators between the ages of 47 and 64 experience significantly more dedication to their profession than those who are between the ages of 22 and 30. This may be a reflection of a situation where educators with greater work experience might feel that they have more control over their working environment. Older educators may also be closer to retirement, and may want to leave a legacy through their teaching – thus their higher levels of dedication. These educators could also feel that the climate for teaching in South Africa today is better than what they experienced, and feel more dedicated to their jobs. Alternatively, these educators could be 'riding out the wave', and, in keeping an eye on their imminent retirement, feel more dedicated to the job (and pension) than someone who is still young and could more easily consider other career options. Single educators also experienced more feelings of dedication towards their jobs than their

married counterparts. This could be due to the fact that married educators might be more prone to be dedicated to their families. They might also feel more inspired to be more involved with their families than with their jobs. Again, single educators may find it more important to 'make a career' for themselves, and would therefore dedicate themselves largely to their work.

Educators between the ages of 37 and 46 are less absorbed in their jobs than their younger counterparts between the ages of 22 and 30. The younger educators might still feel very excited when they enter their careers and might not yet feel the pressure that is related to the educational career. Therefore they would be totally involved with their jobs and find it difficult to detach themselves from their work. Since no other research has confirmed these findings, especially in the education environment, this presents a unique finding. It may be hypothesized that those who are younger (and by implication less experienced), need to be more absorbed in their vocation in order to 'learn the tricks of the trade'. Older educators, who by implication have more work experience, might also feel less absorbed because they are more disillusioned with the realities of teaching.

A limitation of this study was that it relied exclusively on self-report measures, because at least part of the common variance of the measures has to be attributed to method variance (Schaufeli, Enzmann & Girault, 1993). The variance explained by the biographical variables also proved to be rather small. However, the utility of this exercise is heightened by the fact that a variable such as gender is impossible, and home language very unlikely to change, and thus presents very robust predictors. Also, the categories used for age and tenure were rather broad (ranging from 8 to 9 years for age and 7 to 20 or more years for tenure), which makes pinpointing problematic time periods easier.

RECOMMENDATIONS

Based on the results of this study, it is recommended that biographical variables that can contribute to burnout and work engagement should be managed to promote psychological well-being among educators.

It is recommended that, in order to profile educators at risk of developing burnout, further studies with regard to stress should be conducted among educators in the Goldfields Region of the Northern Free State Province. Investigating biographical differences with regard to job stress could also help with the development of a profile of educators who might be prone to job stress.

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CHAPTER 4

ARTICLE 3

OCCUPATIONAL STRESS AMONG SECONDARY SCHOOL TEACHERS IN THE GOLDFIELD DISTRICT OF THE FREE STATE PROVINCE

D. van Wyk

ABSTRACT

The objectives of this study were to determine if a valid and reliable measure could be developed to indicate which factors were perceived as stressful by educators in the Goldfields Region of the Northern Free State Province, and to determine if any biographical differences exist regarding educator stress. A questionnaire consisting of 48 items was developed and administered in a cross-sectional survey. During analysis, 4 items were discarded due to non-loading, and a further 8 items were discarded due to significant secondary loadings. Five factors were extracted, explaining 42,22% of the total variance in the data. These five factors showed acceptable alpha coefficients. The five factors extracted were labelled Rewards and Participation, Support and Communication, Job Insecurity, Role Overload and Task Characteristics. A biographical questionnaire was also administered. Biographical variables that can be used to describe educator stress include language, age, gender, work experience and marital status.

OPSOMMING

Die doelstellings van hierdie studie is om te bepaal of 'n geldige en betroubare vraelys ontwikkel kan word wat kan aandui watter faktore deur onderwysers in die Goudveldstreek van die Noordelike Vrystaat Provinsie as stresvol gesien word, en om vas te stel of biografiese veranderlikes gebruik kan word om stres onder onderwysers te bepaal. 'n Vraelys met 48 items is ontwikkel en geadministreer met 'n deursnitopname. Vier items moes verwyder word aangesien dit nie gelaai het nie, en 'n verdere 8 items moes verwyder word aangesien dit op meer as een faktor gelaai het. Vyf faktore is ontrek, wat 42,22% van die totale variansie in die data verduidelik. Hierdie faktore, wat aanvaarbare alfa-koëffisiente getoon het, is geïdentifiseer as Belonings en Deelname, Ondersteuning en Kommunikasie, Werksonsekerheid, Roloorlading en Taakeienskappe. 'n Biografiese vraelys is ook geadministreer. Biografiese veranderlikes wat gebruik kan word om stres te bepaal sluit onder andere taal, geslag, ouderdom, jare werkservaring en huwelikstatus in.

Stress is a part of life that is generated by continuous changes in one's life. Jones and Bright (2001) associate occupational stress with an increase in negative work-related outcomes, such as job dissatisfaction, ill health, absenteeism, higher turnover and lowered productivity. Karasek and Theorell (1990), Perrewe (1991) and Jackson (2004) indicate that impaired performance or reduction in productivity, diminishing levels of customer service, health problems, absenteeism, higher turnover, industrial accidents, alcohol and drug usage and purposefully destructive behaviours at work are just some of the negative effects of occupational stress. Furthermore, stress seems to strike those in the service professions, such as teaching, disproportionately much compared to other workers (Gary & Reitzammer, 1998).

What (exactly) does the word/term 'stress' mean? Much research has gone into stress, but an exact description or consensus on the precise meaning of the word/term has still not been found (Jex, Beehr, & Robberts, 1992). Lazarus and Folkman (1984) defines stress from an organisational-psychological point of view, describing it as the product of an imbalance between environmental demands and individual capabilities. Skillern, Richardson, Wallman, Prickett and Marion (1990) defines stress as an adaptive response when a person's body prepares for or adjusts to a threatening situation. Stress is also defined as a non-specific response of the human body to any demand that is forced on it (Selye, 1976). Van Graan (1981) defines stress as an energy-demanding negative emotional experience that usually follows a stimulus that is cognitively evaluated and interpreted as a threat. Dunham (1995) also defines stress as the physical, mental or emotional reaction resulting from an individual's response to environmental tensions, conflicts and pressure.

Gold and Roth (1993) describes stress as a condition of disequilibrium with the intellectual, emotional and physical state of the individual. It is generated by one's perceptions of the situation, which can result in physical and emotional reactions. It can be either positive or negative, depending upon one's interpretation. Stress could thus be defined as a reaction, be it mental, emotional or physical, to various perceived situations that could have an impact or influence, be it physical or psychological, on an individual. In this study, stress will be studied as a work-related phenomenon. Therefore occupational stress is defined as a person's reaction to various external influences, such as the characteristics of the job.

Stress among educators has been receiving an immense amount of international attention for quite some time (Jarvis, 2002). Jarvis (2002) indicated that educator stress could be associated with a range of causal factors, including those intrinsic to teaching, individual vulnerability and systemic influences. More than twenty years ago, Greenberg (1984) noted that educators' work was becoming more complex and more demanding.

He also mentioned that the role of educators was becoming less easily defined and that variables intrinsic to the job were becoming more complex (Greenberg, 1984).

In terms of specific stressors that educators experience, Travers and Cooper (1996 indicated that workload and long working hours has emerged as prominent stressors for educators in Britain and France. Furthermore, workload, or rather overload, has also been identified as a stressor among educators in Australia and Scotland (Pithers & Soden, 1998). It comes as no surprise then that the stress phenomenon is also prevalent in the South African education sector. Increasing changes in education, like the new curriculum and Outcomes Based Education (OBE), where the educator should work as fast or slow as the students; changes in the broader society, such as population increases, diversity in school populations, increases in cost of living and crime and its effect on student behaviour, and changing conditions of service, including new rules and regulations from the Department of Education, performance appraisal systems and demands of unions, are just some of the changes in the South African education environment that contribute to the stress that educators experience (Mesthri, 1999). Ramrathan (2003) and Xaba (2003) also found that an increase in workload and the restructuring of the education system are adding to the enormous stress burden that educators are bearing. Niehaus, Myburg and Kok (1995) indicated that educators need to cope with an increased demand for specialization, the growing scope of syllabuses and an increased number of learners per class.

In a recent study done by Jackson (2004) in the North West Province, various significant job characteristics were found that could contribute to educator stress. Increased working hours, improper equipment, redundant skills and constant changes are just some of the job characteristics that were identified as factors that could lead to stress. In the Free State Province, Marais (1989) found high levels of stress among educators. He noted the presence of a variety of stressors that lead to educator burnout, including work pressure and poor remuneration. Educators also enter the education profession with high expectations, a vision for the future and a mission to help students learn. These, however, soon get hindered by a lack of discipline, a shortage of professional help, insufficient financial support, pressure from unions, education departments and school governing bodies, lack of community support, the poor image of the profession and role ambiguity (Gold & Roth, 1993). Van Zyl (2003) identified various factors that can cause excessive stress among educators in the Vaal Triangle of South Africa. This includes factors like large numbers of learners per class, unsatisfactory evaluations by supervisors, time pressures due to workload, lack of learner discipline, poor salaries, conflict with regard to personal beliefs and expectations of the job, role ambiguity, overload and insufficiency, redundancy, retrenchments and cutbacks.

One needs only to review the popular press to clarify this 'stress problem' to a degree where one cannot ignore the fact that a lot more research should be done on stress in the workplace, and specifically in the teaching profession. Even more importantly, solutions should be identified to constrain this problem. Newspaper headings like *R6m to help teachers fight stress* (Naidoo, 2005); *Profoundly sad so many teachers are quitting* (Quail, 2002); *Campus violence makes many teachers leave* (Keating, 2005) clearly indicate that South African educators are battling with stress. In the Free State Province, stress contributes to 200 000 school days being missed by educators annually (Coetzee, 2003). The situation described in these newspaper articles is exacerbated by the fact that South Africa is in reality not training enough quality educators. Studies indicating the trends in the demand for educators show that there will be a demand for approximately 15 000 new educators in the year 2008. If the ratio for learners/educator were to be 35 learners for every 1 educator, the amount of educators in demand will rise between 32 000 to 34 000 (Educators' Supply and Demand in the South African Public Education System, 2005).

In a recent interview, the Minister of Education, Naledi Pandor, raised her concerns regarding violent learners threatening educators (SABC News, 12 May 2006). She was being questioned on the safety and security at schools after one learner was killed by another one. Another news interview, a day before the interview with Naledi Pandor, highlighted the involvement of unions in order to stop the violence in schools, especially when it influences educators' effectiveness (SABC News, 11 May 2006). Dave Balt, president of the National Professional Teachers Organisation of South Africa (NAPTOSA), said in this interview that these violent incidents add significantly to the stresses that are impacting on the morale of educators (SABC News, 13 June 2006).

Stress and biographical differences

Various studies, both international and local, indicated that various biographical differences exist regarding the levels of stress among educators. International studies done in the United Kingdom and the United States found that gender could be used to determine stress. It was found that female educators were more prone to suffer from stress than their male counterparts (Brember, Ralph & Brown, 2002; Eichinger 2000; Naylor & Malcomson 2001). Naylor and Malcomson (2001) also found that age could be used to determine stress, with younger educators scoring higher on perceived levels of stress than their older counterparts. Nelson, Maculan, Roberts and Ohlund (2001) found that educators with less experience are more prone to suffer from stress than those with more years of experience.

In a study conducted in the Free State Province (Van Zyl & Pietersen, 1999), some biographical characteristics were found that could be used to determine stress among educators. Gender and marital status made significant contributions to educators' levels of stress, with females and married educators being the worst off. In a more recent study in the Free State Province, Motseke (2005) found that educators' gender, age and marital status could be used to describe stress among educators. Contrary to the findings of Naylor and Malcomson (2001), Motseke (2005) found that older educators experienced more stress when compared to younger educators. Furthermore, he also confirmed that female educators experience more stress than male educators, and that married educators experience more stress than single educators. Jackson and Rothmann (2006) also found that age could be used to describe stress among educators. They found that younger educators, between the ages of 18 and 27, experienced significantly more stress than those between the ages of 28 and 32.

The discussion above leads to the following hypotheses:

H1: A valid and reliable measure can be developed to indicate factors perceived as stressful by educators in the Goldfields Region of the Northern Free State Province.

H2: Significant differences based on biographical differences exist regarding stress levels of educators in the Goldfields Region of the Northern Free State Province.

METHOD

Research design

A cross-sectional survey design, where a sample is drawn from a population at one point in time (Shaughnessy & Zechmeister, 1997), was used to attain the research objectives. The obvious advantage of the cross-sectional approach is time, with the shortcoming of cohort effects. A cohort is a group of people born at the about the same time. Yet, if different cultural or age groups are compared, they do not only differ in terms of ethnicity or chronological age, but also in terms of the environments in which they were raised (Goodwin, 2002). The multi-cultural South African society with its politically-divided past, surely acts to negate cohort effects.

Participants

Participants were randomly selected from the total population of educators in the Goldfield Region of the Northern Free State Province. A sample of 469 educators was taken from the total population of 1014. Schools in the Goldfields Region of the Northern Free State Province were randomly selected from an alphabetical list of school names, and all educators at said schools were asked to complete the questionnaire. Completed questionnaires were to be given to the principals, from whom the questionnaires were collected at a pre-determined date. The Director-General of the Free State Department of Education granted permission to conduct the study. Schools were randomly selected, since this is important in order to draw accurate conclusions about the entire group of interest (Spector, 2000).

The mean age of participants was 37,58 years, with a standard deviation of 9,08 (28,46 – 46,62 years old), while the mean years of experience was 13,04, with a standard deviation of 8,89 (4,15 – 21,93 years of experience). Most participants (43%) indicated that their home language was an African language, whilst only 17,02% of the participant's indicated that their home language was English. There are certain differences between the participants and the total population, as 25,40% of the population of educators in the Goldfields Region of the Free State Province are Afrikaans-speaking, 3,49% are English-speaking, and 71,12% speak an African language (J. B. Deacon, Administrator, Free State Education Department, personal communication, January 24, 2006). As such, African-language speakers and their English-speaking counterparts were somewhat underrepresented among the participants, while the Afrikaans-speaking respondents were somewhat overrepresented. Regarding the gender of participants, 60,52% were female. This closely represents the population of educators in the Goldfields region of the Free State province, where 66% of the educators are female and 34% are male (J. B. Deacon, Administrator, Free State Education Department, personal communication, January 24, 2006).

Measuring battery

Measures of occupational stress and biographical information, which were developed by the researcher, were administered to the target population.

An Educator Stress Questionnaire was administered in which certain items were generated by the researcher, and others were taken over from previous research that describes educator stress (Jackson, 2004; Van Zyl, 2003; Coetzee & Rothmann, 2005). The items were placed on a Likert-type scale, with anchors of 1 (Never),

2 (Sometimes), 3 (Often) and 4 (Always). The questionnaire starts with a statement of "How often...", and then gives statements to which participants have to respond. Typical statements included "Do you have too much work to do?", and "Do you work under time pressure?" A list of 48 items was generated to which educators were asked to respond. The dimensions include pace and amount of work, mental load, emotional load, work variety, opportunities to learn, work independence, relationships with colleagues, relationship with immediate supervisor, ambiguities at work, information, communication, participation, contact possibilities, uncertainty about the future, remuneration and career possibilities. The internal consistency and construct validity of the scale was determined and will be reported below.

A biographical questionnaire was also administered in which participants were requested to supply their age, years of experience, gender, marital status and home language.

Statistical Analysis

The statistical analysis was carried out with the help of the SPSS-program (SPSS, 2003). The SPSS-program was used to carry out statistical analysis regarding the reliability and validity of the measuring instrument, descriptive statistics, analysis of variance and correlation coefficients.

Descriptive statistics (e.g. means, standard deviations, range, skewness and kurtosis), and inferential statistics were used to analyse the data. Pearson product-moment correlation coefficients were used to specify the relationships between the variables. A cut-off point of $d = 0{,}30$ (medium effect, Cohen, 1988) was set for the practical significance of correlation coefficients.

A Multiple Analysis of Variance (MANOVA) was used to determine differences between the biographical subgroups in the sample. The following formula was used to determine the practical significance of differences of means of more than two groups (Steyn, 1999):

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

where

$Mean_A$ = Mean of the first group;
$Mean_B$ = Mean of the second group;

Root MSE = Root Mean Square Error.

RESULTS

The mean scores per item were calculated to indicate the most prevalent stressors experienced in the current sample. The results are reported in Table 1 below.

Table 1

Most Prevalent Stressors based on Mean Item Scores

How often	Mean	*SD*
Do you have to remember many things in your work?	3,11	0,80
Do you get on well with your colleagues?	3,09	0,79
Do you get on well with your supervisor?	3,08	0,82
Do you know exactly what you are responsible for, and which areas are not your responsibility?	3,04	0,83
Do you have to give continuous attention to your work?	3,04	0,83
Can you count on your supervisor when you come across difficulties in your work?	3,01	0,84
Do you have contact with colleagues as part of your work?	3,00	0,81
Can you discuss work problems with your direct supervisor?	2,98	0,76
Do you work under time pressure?	2,97	0,69
If necessary, can you ask your colleagues for help?	2,97	0,88
Can you count on your colleagues when you come across difficulties in your work?	2,94	0,85
Are you kept adequately up-to-date about important issues within the education department?	2,93	0,83
In your work, do you feel appreciated by your supervisor?	2,91	0,82
Can you participate in the decision about when a piece of work must be completed?	2,90	0,82
Do you receive sufficient information on the results of your work?	2,89	0,79
Do you know exactly what other people expect of you in your work?	2,89	0,83
Do you have contact with difficult children in your work?	2,88	0,82
Do you have to attend to many things at the same time?	2,87	0,77
Do you have freedom in carrying out your work activities?	2,86	0,74
Does your work make sufficient demands on all your skills and capacities?	2,84	0,74
Can you participate in decisions about the nature of your work?	2,84	0,84
Do you receive sufficient information on the purpose of your work?	2,84	0,79
Do you have influence in the planning of your work activities?	2,83	0,79
In your work, do you repeatedly have to do the same things?	2,81	0,75
Does your job offer you the possibility of independent thought and action?	2,80	0,70
Can you have a chat with colleagues during working hours?	2,74	0,85
Do you find that you have enough contact with colleagues during working hours?	2,73	0,82
Do you know exactly what your direct supervisor thinks of your performance?	2,70	0,80

Table 1 continued

Most Prevalent Stressors based on Mean Item Scores

Do you have enough variety in your work?	2,68	0,74
Does your job offer you opportunities for personal growth and development?	2,68	0,87
Are you confronted in your work with things that affect you personally?	2,67	0,80
Do you have too much work to do?	2,67	0,85
Does your organisation give you opportunities to follow training courses?	2,67	0,84
Does your work put you in emotionally upsetting situations?	2,64	0,75
Does your direct supervisor inform you about how well you are doing your work?	2,64	0,86
Do you need to be more secure that next year you will keep the same function level as currently?	2,62	0,90
Do you need to be more secure that you will keep your current job in the next year?	2,60	0,96
Does your work give you the feeling that you can achieve something?	2,57	0,76
Do you have a direct influence on your school's decisions?	2,55	0,83
Is it clear to you whom you should address within the education department about specific problems?	2,55	0,76
Do you need to be more secure that you will still be working in one year's time?	2,55	0,92
Does your job give you the opportunity to be promoted?	2,47	0,89
Is the education department's decision-making process clear to you?	2,27	0,69
Does your job offer you the possibility to progress financially?	2,14	0,89
Do you think that the education department pays good salaries?	2,11	0,95
Do you find that you do not have enough work?	2,03	0,94
Do you think you are paid enough for the work that you do?	2,01	0,94

The most prevalent stressor for educators in the current sample refers to having many things to remember at work, thus indicating cognitive overload. The second and third highest-ranked stressors refer to relationships at work, firstly with colleagues and secondly with the supervisor. The fourth most prevalent stressor for educators was indicated by whether they could differentiate what areas of the jobs they were responsible for, thus indicating an element of role clarity. The fifth most prevalent stressor dealt with the amount of attention educators had to give to their work on a continuous basis, indicating cognitive overload. The sixth, seventh and eighth ranked stressors were once again related to the social support that educators received from both colleagues and their supervisors. The ninth highest stressor that was identified was that educators had to work under time pressure. The tenth most prevalent stressor was once again related to the social support, and more specifically help, that educators receive from their colleagues if it is needed. The items that showed the highest mean scores in general refer to cognitive overload and social support from both colleagues and supervisors.

Except for the second least prevalent stressor that indicates low workload, rewards, be it financial or the opportunity to be promoted, seems to be the least prevalent stressor for educators. Job security is the seventh least prevalent stressor among educators. Clarity about whom educators should address about their problems

and the perceptions that educators have about their own influence on school decisions, which is an indication of the level of communication with management, are also among the least prevalent stressors for educators.

Table 2 gives the factor loadings, communalities and percentage variance for the extraction of principal components and Oblimin rotation on items. Names for factors are suggested in a footnote.

Table 2

Factor Loadings, Communalities (h^2) and Percentage Variance for Principal Components Extraction and Oblimin Rotation on Stress Items

Item	*F1*	*F2*	*F3*	*F4*	*F5*	h^2
Can you count on your colleagues when you come across difficulties in your work?	**0,46**	-0,14	-0,18	0,13	0,34	0,26
If necessary, can you ask your colleagues for help?	**0,46**	-0,27	-0,08	0,15	0,38	0,31
Can you count on your supervisor when you come across difficulties in your work?	**0,66**	-0,18	-0,14	0,18	0,36	0,46
Do you get on well with your supervisor?	**0,57**	-0,36	-0,21	0,19	0,37	0,46
In your work, do you feel appreciated by your supervisor?	**0,66**	-0,06	-0,04	0,06	0,34	0,45
Do you know exactly what you are responsible for, and which areas are not your responsibility?	**0,42**	-0,32	-0,19	0,15	0,44	0,35
Do you know exactly what your direct supervisor thinks of your performance?	**0,61**	0,04	0,07	0,02	0,18	0,40
Do you receive sufficient information on the purpose of your work?	**0,61**	-0,02	-0,10	0,05	0,34	0,39
Do you receive sufficient information on the results of your work?	**0,69**	-0,06	-0,06	0,11	0,24	0,49
Does your direct supervisor inform you about how well you are doing your work?	**0,62**	0,09	0,00	0,06	0,08	0,45
Can you discuss work problems with your direct supervisor?	**0,64**	-0,01	-0,05	0,11	0,26	0,41
Can you participate in decisions about the nature of your work?	**0,47**	0,21	0,02	-0,14	0,37	0,34
Is it clear to you whom you should address within the education department about specific problems?	0,17	**0,50**	0,15	-0,25	0,07	0,32
Do you have a direct influence on your school's decisions?	0,22	**0,41**	0,09	-0,26	0,27	0,32
Do you think that the education department pays good salaries?	-0,07	**0,76**	0,15	-0,18	-0,11	0,58
Can you live comfortably on your pay?	-0,06	**0,76**	0,06	-0,20	0,08	0,60
Do you think you are paid enough for the work that you do?	-0,13	**0,80**	0,16	-0,19	-0,19	0,66
Does your job offer you the possibility to progress financially?	-0,11	**0,74**	0,19	-0,21	-0,08	0,56
Does your job give you the opportunity to be promoted?	0,05	**0,50**	0,16	-0,22	0,21	0,33
Do you need to be more secure that you will still be working in one year's time?	0,04	0,12	**0,75**	0,03	0,11	0,60
Do you need to be more secure that you will keep your current job in the next year?	0,04	0,09	**0,81**	0,05	0,13	0,70
Do you need to be more secure that next year you will keep the same function level as currently?	0,13	0,09	**0,72**	0,13	0,12	0,60
Do you work under time pressure?	0,07	-0,29	0,06	**0,65**	0,16	0,48
Do you have to attend to many things at the same time?	0,16	-0,36	-0,18	**0,50**	0,19	0,34
Are you confronted in your work with things that affect you personally?	-0,13	-0,02	0,03	**0,57**	-0,05	0,38

Table 2 continued

Factor Loadings, Communalities (h^2) and Percentage Variance for Principal Components Extraction and Oblimin Rotation on Stress Items

Do you have contact with difficult children in your work?	0,16	-0,29	-0,07	**0,55**	0,10	0,33
Does your work put you in emotionally upsetting situations?	-0,02	-0,09	0,09	**0,56**	-0,10	0,36
In your work, do you repeatedly have to do the same things?	0,19	-0,28	-0,03	**0,56**	-0,03	0,38
Does your work make sufficient demands on all your skills and capacities?	0,23	-0,22	-0,06	0,25	**0,49**	0,31
Do you have enough variety in your work?	0,18	0,12	-0,05	0,14	**0,54**	0,34
Does your job offer you opportunities for personal growth and development?	0,17	0,28	0,20	-0,07	**0,57**	0,45
Does your work give you the feeling that you can achieve something?	0,38	-0,11	0,11	0,05	**0,71**	0,54
Does your job offer you the possibility of independent thought and action?	0,23	0,06	0,11	-0,06	**0,62**	0,42
Do you have freedom in carrying out your work activities?	0,37	-0,05	0,04	-0,02	**0,64**	0,43
Do you have influence in the planning of your work activities?	0,32	-0,18	-0,13	0,02	**0,50**	0,30
Can you participate in the decision about when a piece of work must be completed?	0,33	-0,11	-0,06	-0,05	**0,58**	0,37
Percentage variance	18,42	11,09	4,93	4,31	3,47	

a: Factor labels: F1: Support and Communication; F2: Rewards and Participation; F3: Job Insecurity; F4: Role Overload; F5: Task Characteristics

An inspection of Table 2 shows that five factors were extracted, accounting for 42,22% of the total variance in the data. Variables were reasonably well defined by this factor solution. Communality values, as seen in Table 2, tend to be low to moderate. With a cut-off of 0,40 for inclusion of a variable in interpretation of a factor, 4 of 48 items did not load on the five factors, while another 8 were discarded due to significant secondary factor loadings.

The items that failed to load on the five factors included communication with colleagues during working hours and whether educators felt included in the decision-making process of the education department. The items that showed secondary loadings dealt with the amount of work that educators had to do, and the amount of attention they had to pay to their work. The other items had to do with educators' contact with colleagues, and if they were aware of what is expected of them, and if they were kept up to date on important issues by the Education Department. These items were removed from subsequent analyses.

The first factor was labelled *Support and Communication.* This factor dealt mostly with communication between the individual educator and his/her colleagues and supervisor. However, the factor also loaded items that dealt with communication from the organisation, indicated by items measuring clearly delineated roles and responsibilities. The second factor had items related mostly to rewards, but also to participation, which

may be seen as an intrinsic reward factor. Accordingly, the second factor was labelled *Rewards and Participation.* The third factor had to do with feelings of security related to actually working, and working in the same job and at the same level over the next year, and was labelled *Job Insecurity.* The fourth factor loaded items that dealt with doing repetitive work and working under time pressure, and had an element of cognitive overload, referring to attending to many things at the same time. A large component of the factor also dealt with dealing with difficult learners and emotionally upsetting and personally affecting situations. Accordingly, this factor was labelled *Role Overload.* Lastly, the fifth factor loaded items that had to do with variety in the job, use of personal skills and abilities, opportunities for growth and learning, achievement, independence and planning, and was labelled *Task Characteristics.*

Table 3 shows the descriptive statistics and Cronbach alpha coefficients of the extracted factors.

Table 3

Descriptive Statistics and Cronbach Alpha Coefficients of the Education stress questionnaire.

Factors	Mean	*SD*	Skewness	Kurtosis	α
Support and Communication	32,14	5,52	0,53	-0,31	0,78
Rewards and Participation	19,01	4,25	-0,26	-0,98	0,82
Job Insecurity	6,03	1,86	-0,23	-0,41	0,84
Role Overload	14,52	2,48	0,39	0,34	0,68
Task Characteristics	19,66	3,38	0,51	0,17	0,75

Table 3 indicates that the scores on the 5 factors are normally distributed, as indicated by a normal distribution in terms of skewness and kurtosis. The Cronbach alpha coefficients of all the items, except for Role Overload, are considered to be acceptable compared to the guideline of $\alpha > 0,70$ (Nunnally & Bernstein, 1994). The Cronbach alpha coefficient of Role Overload compares reasonably well with the guideline of 0,70, considering that it is estimated for the total sample, and values as low as $\alpha \geq 0,55$ are deemed acceptable in basic exploratory research (Nunnally & Bernstein, 1994).

The product-moment correlation coefficients between the stress factors are reported in Table 4. Pearson correlations were used since the factors showed normal distributions.

Table 4

Correlations between the Different Stress Factors

	Factors	1	2	3	4
1.	Rewards and Participation	-			
2.	Support and Communication	-0,17*	-		
3.	Job Insecurity	0,14*	0,03	-	
4.	Role Overload	-0,31*+	0,15*	0,05*	-
5.	Task Characteristics	0,01	0,51*++	0,18*	0,08

* Statistically-significant correlation: $p \leq 0.05$

+ Practically significant $r \leq 0.30$ (medium effect)

++ Practically significant $r \leq 0.50$ (large effect)

Table 4 shows statistically-significant negative correlations between Rewards and Participation on the one hand, and Support and Communication, as well as Role Overload (practically significant, medium effect), on the other. Rewards and Participation also showed a statistically significant positive correlation with Job Insecurity. Support and Communication had a statistically significant positive correlation with Role Overload, and a practically significant correlation with Task Characteristics (large effect). Job Insecurity showed a statistically significant correlation with Task Characteristics and Role Overload.

Table 5 gives the differences regarding stress factors based on biographical variables.

Table 5

Differences regarding Stress Factors and Biographical Variables

Factor	Variable	*p*	Category	*n***	Mean	SD
Rewards and Participation	Marital status	-	Single	50	19,11	5,19
			Engaged	70	18,58	4,05
			Married	229	19,16	4,09
			Divorced	37	19,68	3,64
			Separated	17	20,25	4,25
			Remarried	4	18,33	3,22
	Gender	-	Male	158	19,35	4,29
			Female	251	18,98	4,11
	Age	-	22-30 years	90	18,91	4,35
			31-36 years	98	19,77	4,10
			37-46 years	109	19,35	4,39
			47-64 years	79	18,96	3,78
	Years experience	-	0-6 years	107	19,38	4,21
			7-12 years	98	19,56	4,27
			13-20 years	91	19,15	4,45
			20+ years	87	18,41	3,75
	Language	0,00+	Afrikaans	161	17,65*	4,12
			English	69	17,06*	3,79

Table 5 continued

Differences regarding Stress Factors and Biographical Variables

			African language	184	21,20*	3,37
Support and Communication	Marital status	0,05+	Single	50	32,13	4,82
			Engaged	70	33,11*	6,23
			Married	229	31,95	5,43
			Divorced	37	32,06*	5,36
			Separated	17	29,90	5,49
			Remarried	4	32,23	6,43
	Language	0,00+	Afrikaans	161	33,53*	6,48
			English	69	33,71*	5,31
			African language	184	30,12*	3,64
	Gender	-	Male	158	31,65	5,35
			Female	251	32,42	5,62
	Age	-	22-30 years	90	32,18	5,73
			31-36 years	98	31,63	4,75
			37-46 years	109	31,86	5,50
			47-64 years	79	32,28	6,10
	Years experience	-	0-6 years	107	32,12	5,30
			7-12 years	98	31,80	5,07
			13-20 years	91	31,47	5,41
			20+ years	87	33,20	6,34
Job Insecurity	Marital status	-	Single	50	5,73	1,89
			Engaged	70	6,08	2,00
			Married	229	5,99	1,78
			Divorced	37	6,19	1,88
			Separated	17	6,20	1,87
			Remarried	4	4,92	1,10
Job Insecurity	Language	0,00+	Afrikaans	161	6,18*	2,16
			English	69	5,60*	2,13
			African language	184	5,99*	1,33
	Gender	-	Male	158	5,91	1,72
			Female	251	6,04	1,93
	Age	-	22-30 years	90	5,64	1,92
			31-36 years	98	6,06	1,68
			37-46 years	109	5,94	1,93
			47-64 years	79	6,28	1,77
	Years experience	-	0-6 years	107	5,81	1,85
			7-12 years	98	6,31	1,69
			13-20 years	91	5,86	1,84
			20+ years	87	6,14	1,96
Role Overload	Marital status	-	Single	50	15,07	2,04
			Engaged	70	14,64	2,57
			Married	229	14,32	2,46
			Divorced	37	14,89	2,53
			Separated	17	14,72	2,01
			Remarried	4	14,71	0,53
	Language	0,00+	Afrikaans	161	15,00*	2,76
			English	69	15,43*	2,79
			African language	184	13,81*	1,63
	Gender	-	Male	158	14,43	2,39

Table 5 continued

Differences regarding Stress Factors and Biographical Variables

			Female	251	14,61	2,49
	Age	-	22-30 years	90	14,74	2,55
			31-36 years	98	14,55	2,23
			37-46 years	109	14,29	2,42
			47-64 years	79	14,56	2,69
	Years experience	-	0-6 years	107	14,67	2,38
			7-12 years	98	14,64	2,29
			13-20 years	91	14,51	2,28
			20+ years	87	14,42	2,86
Task Characteristics	Marital status	-	Single	50	19,11	3,16
			Engaged	70	20,49	3,32
			Married	229	19,44	3,35
			Divorced	37	19,95	3,52
			Separated	17	19,42	3,89
			Remarried	4	17,34	0,77
	Language	0,03+	Afrikaans	161	20,50*	3,76
			English	69	20,25*	3,63
			African language	184	18,50*	2,41
	Gender	-	Male	158	19,60	3,16
			Female	251	19,63	3,52
Task Characteristics	Age	-	22-30 years	90	19,25	3,76
			31-36 years	98	19,44	3,10
			37-46 years	109	19,72	3,22
			47-64 years	79	19,93	3,66
	Years experience	-	0-6 years	107	19,45	3,41
			7-12 years	98	19,45	3,48
			13-20 years	91	19,25	2,82
			20+ years	87	20,38	3,87

+ Only statistically significant p-values are reflected in the Table.

*Statistical significance: $p \leq 0,05$

** Note that the Table reflects missing values. Computations were only performed for participants where all data was available, therefore $\Sigma n \neq 469$

Upon inspection of Table 5, significant differences are indicated between African-language-speaking educators and Afrikaans and English-speaking educators with regards to all the stress factors. Regarding Rewards and Participation, educators who speak an African language scored statistically-significantly higher (Mean = 21,20) than both Afrikaans (Mean = 17,65) and English-speaking (Mean = 17,06) educators. Regarding Support and Communication, educators who were engaged (Mean = 33,11) scored statistically-significantly higher than educators who were divorced (Mean = 32,06). Furthermore, educators who speak English (Mean 33,71) also scored statistically-significantly higher than educators who speak Afrikaans (Mean = 33,53), as well as educators who speak an African language (Mean = 30,12). In terms of Job Insecurity, Afrikaans-speaking educators (Mean = 6,18) scored statistically significantly higher than both English (Mean = 5,60) and African-language-speaking educators (Mean = 5,99). When comparing the means

of Role Overload, it can be seen that English-speaking educators (Mean = 15,43) scored significantly higher than Afrikaans-speaking educators (Mean = 15,00), as well as those who speak an African language (Mean = 13,81). For Task Characteristics, the Afrikaans-speaking educators (Mean = 20,50) scored statistically-significantly higher than English-speaking educators (Mean = 20,25), as well as educators who speak an African language (Mean = 18,50).

DISCUSSION

The first aim of this study was to determine if a valid and reliable measure could be developed to indicate factors perceived as stressful by educators in the Goldfields region of the Northern Free State Province. A questionnaire with 48 items was developed based on existing literature (Coetzer, 2004; Jackson, 2004; Van Zyl, 2003, Coetzee & Rothmann, 2005) regarding educator stress. During analyses, five factors were extracted that accounted for 42,22% of the total variance in the data. Out of the 48 items, 4 items did not load on the five factors, while another 8 were discarded due to significant secondary factor loadings. As both secondary loadings and failing to load are indications that the items might be improved, they were removed from further analyses. The remaining 36 items seemed to provide a robust description of educator stress, as indicated by the good alpha values of the extracted factors.

The first factor that was extracted was labelled Support and Communication. This factor dealt predominantly with perceived social support for the individual educator from his/her colleagues and supervisor, and communication from the organisation, which focused on clearly defined roles and responsibilities. International research done by Kenyeri (2002) as well as Hatton and Emerson (1993) found that lack of support could contribute to educator stress. In a study done by Tytherleigh (2003), communication was also identified as a potential contributor to educators' stress. Coetzee and Rothmann (2005) also found in a study among South African educators that a lack of communication could contribute to educator stress. Experiencing a lack of support and communication could contribute to educators' experience of stress in the Goldfields Region of the Free State Province. The Goldfield Region is a smaller region of the Northern Free State Province. Communication from the Department of Education will firstly go to the Free State Department of Education, then to the Northern Region of the Free State Province, and finally to the Goldfield Region. This long line of communication could contribute to the experience of a lack of support and communication.

The second factor had items related mainly to rewards, but also to participation, which may be seen as an intrinsic reward factor, thus the factor was labelled Rewards and Participation. Smith and Bourke (1992) found that the lack of rewards was one of the main contributors to stress among educators. Spies (2005) found that people who can participate in decision making would be less prone to suffer from stress, just as the contrary is true in that those who are not involved with decision making experience higher levels of stress. Educators in the Goldfield region might feel that they do not have the opportunity to participate in the education department due to the fact that they are in one of the smaller regions, and that they do not have enough contact with the larger governing bodies. This could also explain why they do not receive rewards, as their contribution to the education sector is mainly recognised by the school and not the Education Department, which is responsible for rewards and promotions.

The third factor had to do with feelings of security related to actually working, and working in the same job and at the same level over the next year, and was labelled Job Insecurity. Jackson (2004) also found that job insecurity could be a contributor to educators' experience of stress. Coetzee and Rothmann (2005) found that educators who were uncertain about the future suffered higher levels of stress than those educators who had more assurance. Job insecurity could be one of the main contributors to stress, as the Goldfields Region of the Free State Province is mainly driven by the mining sector and the fluctuating gold price contributes to uncertainty regarding the future job prospects of many people. It could easily be understood that economic instability in the region could negatively impact on a variety of occupations, directly or indirectly related to the mining industry *per se*, but also related to the society in which the mining industry forms an important economic driver.

The fourth factor loaded items that dealt with doing repetitive and pressurised work. It also had an element of cognitive overload, referring to attending to many things at the same time. A large component of the factor also dealt with dealing with difficult learners and emotionally upsetting and personally affecting situations. Accordingly, this factor was labelled Role Overload. Coetzee and Rothmann (2005), as well as Jackson (2004), found that educators who experience role overload, had higher stress levels than those with less role overload. Coetzer (2004) found that people doing repetitive work experience higher levels of stress than those with a variety of working conditions. Hakanen, Bakker and Schaufeli (2006) found that educators who experience a vast amount of emotional upsetting work, high job demands and immense pressure, are also prone to suffer more from stress. Educators in large cities are usually assisted by students from universities who are doing their training in education, as well as professional sports coaches to assist them in the extra-curricular activities. Educators in the Goldfield Region do not enjoy this support and it can be expected from

them to do all these activities. Larger provinces and cities also have the added advantage of having professional people like educational psychologists to assist with students suffering from emotional or upsetting situations. Educators in the Goldfield Region will have to deal with these situations on their own, and might also experience the stress related to working with learners' emotional trauma and difficulties.

The fifth and last factor loaded items that had to do with variety in the job, use of personal skills and abilities, opportunities for growth and learning, achievement, independence and planning and was labelled Task Characteristics. Jackson (2004) found that poor task characteristics, such as not experiencing the possibilities of independent thought or having the freedom of carrying out work activities independently were some of the best predictors of educator stress. He also found that educators with positive task characteristics, such as the potential for personal growth and variety at work, experience higher levels of professional efficacy, which could lead to lower levels of stress. Educators in the Goldfield Region might experience more stress as they will experience less opportunity to grow and learn. Their jobs will not necessarily offer them too much variety as the opportunities in smaller regions, such as the Goldfield Region, are very limited.

In terms of individual items endorsed on the questionnaire, educators in the Goldfield Region seemingly mostly experience cognitive overload. Educators also find a lack of good relationships at work stressful. This includes relationship with both colleagues and supervisors. In general, educators endorsed items referring to the amount of work least. Furthermore, educators also do not experience their lack of rewards, be it financial or in terms of opportunities to be promoted, as very stressful. Educators who choose to teach in regions that are more rural may feel that rewards are less material, and that they enjoy working in these regions because of the relationships that they have with others, as well as the quality of life.

Various relationships were also found between the different stress factors. Educators who experience stress due to the lack of rewards, be it financial or promotional, and participation, would be less able to deal with it if they perceive themselves as not having the necessary support from colleagues and supervisors. Jackson (2004) found similar results in a study among educators in the North West province. The experience of role overload and perceptions of rewards and participation were also negatively related. Educators who do not receive financial or promotional rewards, might also experience more stress due to the amount of work overload. This makes sense, seeing that they might feel that there are no rewards for the amount of work to which they commit themselves. They might also feel that they would be better equipped to cope with the difficulties and emotionally upsetting situations presented by the job if they received better rewards or promotions. Educators who do feel adequately rewarded, whether it is financially or by means of promotion,

and who are involved in important decisions, appear less worried about the security of their jobs in the future. Receiving what is felt to be adequate rewards could help to create the perception that you are a valued employee, and might therefore contribute to the experience of job security.

Educators often experience pressure in their work and feel that they have to work with a lot of emotionally demanding children. They might feel that more support from their colleagues and supervisors and clear communication with their organisation would assist them in the management of stress. Some educators do have support from their colleagues and supervisors and can communicate with them more frequently. They should feel that they have more opportunities for growth and learning, and that they have the opportunity to carry out and plan their activities. Thus, having more support from and interaction with their colleagues and supervisor(s), will contribute to educators being able to grow and learn more. Similar results were also found in a study among secondary school educators in the North West province (Jackson, 2004). Lastly, educators who do feel that they can grow and learn more in their position, and also have influence in planning their activities, will feel more secure about their positions.

Various biographical variables could also be used to identify stress among educators. Language was the most prevalent biographical indicator of educator stress across the developed factors. Educators who speak an African language perceive themselves as having more rewards, be it financial or promotional, and also feel more involved than those educators who speak Afrikaans or English. This may be true, as Affirmative Action (AA) policies enforce the promotion of indigenous Africans into more senior positions. According to the value statement of the Free State Department of Education, one of their core values is to re-dress past employment issues and to ensure that educators who were discriminated against in the past have priority when they apply for positions in schools (Free State Department of Education, 2005).

English-speaking educators apparently experience more support from colleagues and clear communication with their organization, when compared to Afrikaans and African-language-speaking educators. As most of the modules and communication from the education department is English, English-speaking educators may just communicate more effectively, as they understand the different policies and documents better than Afrikaans and African-language-speaking educators. English-speaking educators apparently also experience significantly more role overload than Afrikaans and African-language-speaking educators. English-speaking educators may feel that they have to attend to many things at the same time, in the sense that they have to deal with a lot of emotional problems from learners.

Afrikaans-speaking educators experience significantly more job insecurity than English and African-language-speaking educators. In the current sample, 39,60% of the educators are Afrikaans-speaking and can safely be assumed to be mostly white, and as mentioned above, white educators do have less promotional opportunities as well as opportunities for re-employment. Afrikaans-speaking educators also experience more variety in their jobs and independence in planning when compared to English and African-language-speaking educators. As Afrikaans-speaking educators may experience limited promotional opportunities and find rewards difficult to attain, they may experience pressure to work harder and apply more energy in their jobs. With this, they may feel more growth and learning taking place.

Marital status also proved to be a significant discriminator in describing stress among educators. Educators who are engaged to be married feel that they have more communication with colleagues and supervisors and experience clearer communication with their organization than divorced educators, who perceive themselves as having less communication with colleagues, supervisors, and the organization in general. Smith, Brice, Collins, Matthews and McNamara (2000) found contrary results in a UK study among general workers. They found that divorced workers experience less stress than those who are engaged or married, while locally, Motseke (2005) found that single educators experience significantly less stress than married educators. After divorce, individuals may feel themselves more isolated, as many social ties are disrupted. Communal friends of the married couple may be forced into 'choosing sides', and thus abet this feeling of isolation. It is suggested here that what is witnessed in the occupational setting is merely a reflection of a larger personal upheaval in the educator's private life. Individuals who have gone through the experience of divorce may in general experience less communication with colleagues, supervisors and the organisation in general.

It is interesting to note that no other previous research findings based on language as predictor of stress could be found. Various other studies have found that other biographical variables such as gender and age could be used to determine stress - both of which were found to discriminate educator stress meaningfully (Van Zyl & Pietersen, 1999; Motseke, 2005; Jackson, 2006). The current findings, however, indicate language as the most important discriminating factor in educator stress in the Free State Province, highlighting differences across the developed stress factors. This does suggest that gender, age and years experience are less important factors to consider when addressing educator stress in this area of the Free State Province.

RECOMMENDATIONS

Based on the results of this study, it is recommended that biographical variables that can contribute to stress should be managed to promote psychological well-being among educators. Language barriers should be kept in mind to promote understanding of policies and programmes among educators with diverse home languages.

Lastly, it is recommended that further studies with regard to stress should be conducted among educators in the Goldfields Region of the Free State Province, in order to profile educators at risk of ill-health. Similarly, investigating various contributors to and moderators with regard to stress could help in developing a profile of educators prone to strain.

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CHAPTER 5

ARTICLE 4

THE ROLE OF OPTIMISM IN PREDICTING THE HEALTH OF SECONDARY SCHOOL TEACHERS IN THE GOLDFIELD DISTRICT OF THE FREE STATE PROVINCE

D. van Wyk

ABSTRACT

The objective of this study was to determine if optimism, burnout, engagement and job stress could be used to predict the health of educators in the Goldfield region of the Northern Free State province, while also controlling for the moderating effect optimism may have on health. A cross-sectional survey design was used. A random sample (n = 469) of educators in the Goldfield region of the Northern Free State Province in South Africa. Six measuring instruments were used. An adapted version of the MBI-GS and the UWES, the Educator Stress Questionnaire (ESQ), the LOT-R, the Health Subscales of the ASSET and a biographical questionnaire was administered. Various stress factors could be used to determine well-being among educators, including support and communication, role overload, job insecurity, rewards and participation, and task characteristics. Language also proved to be a constant predictor of physical and psychological health. The vigour component of engagement had a direct effect on educators' psychological health. Optimism was shown to have a moderating effect on physical health.

OPSOMMING

Die doelstelling van hierdie studie was om te bepaal of optimisme, uitbranding, werksbegeestering en werkspanning gebruik kan word om gesondheid onder onderwysers in die Goudveld streek van die Noordelike Vrystaat Provinsie te voorspel, en terselfdertyd te kontroleer vir die modererende effek wat optimisme op gesondheid kan hê. 'n Dwarsdeursnit-opname-ontwerp is gebruik. 'n Ewekansige steekproef (n = 469) is geneem van skole in die Goudveldstreek van die Noordelike Vrystaat Provinsie in Suid-Afrika. Ses vraelyste is gebruik. 'n Aangepaste weergawe van die MBI-GS en die UWES, die Opvoederspanningsvraelys (ESQ), die LOT-R, die Gesondheidskale van die ASSET en 'n biografiese vraelys is geadministreer. Verskeie spanningsfaktore kon gebruik word om die welstand van opvoeders te bepaal. Dit sluit ondersteuning en kommunikasie, roloorlading, werksonsekerheid, belonings en deelname, en taak eienskappe in. Taal is ook uitgewys as 'n konstante voorspeller van fisiese en psigiese gesondheid. Die energiekomponent van werksbegeestering het 'n direkte effek op onderwysers se psigiese gesondheid gehad. Optimisme het 'n modererende effek op fisiese gesondheid gehad.

Education is undoubtedly a crucial key to opening the door to a better society (Hayward, 2006). Imagine a nation of well-educated learners: They use their acquired skills to create jobs for themselves and others. Imagine learners going in their hundreds of thousands to study further at universities, colleges and technikons. The intellectual knowledge gained at these institutions can be given back to society. They can transform society. But, as Hayward indicates, without quality educators, this will remain a dream.

Research over the past five years has proven that ill health, stress and burnout are very prevalent among South African educators. Van Zyl (2003), Jackson (2004) and Van Wyk (2004) have identified various biographical and job characteristics related to educator stress and burnout. Internationally, Brissie, Hoover-Dempsey and Bassler (1988), Byrne (1994) and Friedman (1995) noted that burnout and ill health could result from high levels of stress due to work overload, unwarranted time demands, large class sizes, lack of support, fear of violence, insufficient financial support and pressure from unions and education departments, and role ambiguity. Jackson (2004) mentioned that ill health occurs when environmental demands or constraints are perceived by a person to exceed his or her resources or capacities. Thus, if educators perceive their environmental demands as exceeding their resources and capability in dealing with it, the result could be ill health.

Seligman and Csikszentmihalyi (2000) and Kelloway and Barling (1991) mentioned that, from a "positive-psychology" point of view, it is possible for work to contribute to a person's well-being. They specifically focused on goal-directed and structured activity. Seligman and Csikszentmihalyi (2000, p. 5) wrote: "The field of positive psychology at the subjective level is about valued subjective experiences; well-being, contentment, and satisfaction (in the past); hope and optimism (for the future) and flow and happiness (in the present)". The focus is thus very much on human strengths and optimal functioning, rather than on weaknesses and malfunctioning. This shift in focus to positive psychology is also evident in South African research.

Strümpfer (2002) indicated that if the negative mindset of "what can go wrong" is to be changed into a more positive mindset of "what can go right", a whole different set of assumptions and attributes about health and potential could be achieved. Recent work of Strümpfer (2002) also extended to the fortigenic paradigm. The fortigenic paradigm focuses on the origins of strength. This paradigm thus implies a shift from a psychology of the sick and dysfunctional to a positive psychology concerned with the challenges and opportunities for people in the work place. Strümpfer considered psychological constructs that could help understand alternatives to burnout and help people to move in the general direction of health. Wissing and Van Eeden

(2002) focused on achieving greater empirical clarification of the nature of psychological well-being by investigating the nature of psychological well-being from a fortigenic perspective.

An educator school survey done by Shisana, Peltzer, Zungu-Dirwayi and Louw (2005), indicated that 10,60% of educators in South Africa were hospitalized during the previous 12 months. The study also showed that a staggering 59,80% of all the educators had to visit health practitioners frequently in the preceding 6 month period, and that 75% had visited a healthcare practitioner within the previous 12 month period. Fourie (2006) wrote that thousands of educators leave their profession due to ill health, mainly caused by stress. She further commented that in the Western Cape, 764 educators left their profession in the previous year alone - considering that this number presents 8,04% of the total number of educators in the Western Cape, proves the seriousness of the problem. Of the 764 educators that left the profession, 48% indicated that they were leaving the profession due to ill health and stress. Dr. Huw Davies, head of the South African Democratic Teachers Union (SADTU), said that the amount of educators leaving the profession due to stress, has increased from 8% to 12% in 2006 (Fourie, 2006).

In comparing the overall health of educators with those of the general population, it appears that educators' overall health is poorer than that of the general population. Shisana et al. (2005) also found that 15,60% of educators suffered from high blood pressure and 9,10% of educators suffered from stomach ulcers. Compared to the general population, the prevalence of hypertension (high blood pressure) is at 14,60% (Department of Health, 2004), indicating that compared to the general population, a greater concentration of cases of high blood pressure is found amongst educators. HIV/AIDS is also seriously affecting South African educators. The HIV prevalence amongst educators is an overwhelming 12,70%, with 16% of those infected being black African educators. Geographically, the Free State has the third highest rate of HIV-infected educators in the country, with only KwaZulu-Natal and Mpumalanga having higher rates of HIV-infection (Shisana et al., 2005). The Free State province thus clearly presents a unique environment in which to launch an investigation into educators' health.

Burnout and engagement

Burnout is probably one of the most serious contributors to reduced effectiveness and dysfunctional attitudes, especially among workers who work with other people (Van Dierendonck, Schaufeli, & Buunk, 1993; Schaufeli & Enzman; 1998). Burnout has been defined as a syndrome characterized by emotional exhaustion, depersonalisation and lowered feelings of personal capability, that occurs in individuals who work with

people (Maslach, 1982). Maslach (1982) further defined burnout as a response to chronic emotional stress that develops when working with people, especially if these people are experiencing problems.

In the helping professions, Bakker, Schaufeli, Sixma, Bosveld and Van Dierendonck (2000) described burnout as the condition of physical and emotional exhaustion, as well as the associated negative attitudes, resulting from the intense interaction in working with people. According to Maslach and Jackson (1986), the components of burnout are interrelated, but conceptually distinct, and comprise of emotional exhaustion, depersonalisation and low personal accomplishment (Maslach, 1978, 1982; Maslach & Jackson, 1986). *Emotional exhaustion* refers to the depletion or draining of the emotional resources caused by interpersonal demands. *Depersonalisation* points to the development of negative, callous and cynical attitudes towards colleagues, clients and/or recipients of service. These two dimensions represent the core symptoms of burnout (Schaufeli, Salanova, Gonzáles-Romá & Bakker, 2002). Lastly, low *personal accomplishment* represents the tendency to evaluate one's own work negatively, which includes the belief that objectives are not reached, beliefs of insufficiency and poor professional self-esteem.

The recent introduction of the so-called 'positive psychology' (Seligman & Csikszentmihalyi, 2000) marked a shift from the traditional focus on weakness and malfunctioning, also known as pathology, towards a new focus on human strengths and optimal functioning, also known as fortology (Strümpfer, 2002). Attempts to discover 'what can go right', as opposed to 'what can go wrong', have become the focus of modern psychology (Tytherleigh, 2003). Similar tendencies can be detected in burnout research literature. Where burnout research originally focused more on pathology, recent emphasis tends to show a more positive perspective, and focuses on employees' *engagement*.

Maslach and Leiter (1997) are of the opinion that engagement should be seen as 'the other side' of burnout. Schaufeli et al. (2002) disagreed, and defined engagement as a construct in its own right, describing it as a positive, fulfilling and work-related state of mind that is characterized by vigour, dedication and absorption. Schutte, Toppinen, Kalimo and Schaufeli (2000) defined work engagement as an energetic state in which the employee is dedicated to excellent performance at work, and is confident of his or her own effectiveness. Work engagement consists of Vigour, which is characterised by high levels of energy and mental resilience while working, the willingness to invest effort in one's work, and not being easily fatigued; Dedication, which is characterised by deriving a sense of significance from one's work, feeling enthusiastic about and proud of one's job, and feeling inspired and challenged by it. Absorption which is characterised by being

totally and happily immersed in one's work and having difficulty detaching oneself from it. Time passes quickly and one forgets everything else that is around (Schaufeli, 2003).

Van Wyk (2006a) found acceptable reliability coefficients for different language groups for both the burnout and engagement scales for secondary educators in the Goldfield region of the Free State province. Pienaar and Van Wyk (2006) also indicated that an extended version of burnout, comprising dimensions of Exhaustion, Cynicism, Depersonalisation and Professional Efficacy, showed ample reliability and internal consistency. It was, however, indicated that although Depersonalisation and Cynicism showed good reliability and internal consistency, the Depersonalisation construct showed better fit to the data than the Cynicism construct, and should thus be preferable in the measurement of burnout among educators.

Occupational stress

Stress has been defined by various people in various different ways. From an organisational-psychological point of view, stress has been defined as the product of an imbalance between environmental demands and individual capabilities (Lazarus & Folkman, 1984). Van Graan (1981) defined stress as an energy-demanding negative emotional experience that usually follows on a stimulus that is cognitively evaluated and interpreted as a threat. Skillern, Richardson, Wallman, Prickett and Marion (1990) defined stress as an adaptive response in which a person's body prepares or adjusts to a threatening situation. Stress has further been defined as the physical, mental or emotional reaction resulting from an individual's response to environmental tensions, conflicts and pressure (Dunham, 1995). Stress, for the purpose of this research, is defined as a reaction, be it mental, emotional or physical, to various perceived situations that could have an influence, be it physical or psychological, on an individual. For the purposes of this study, stress will be examined as a work-related phenomenon. Therefore occupational stress will be defined as a person's reaction to various external influences emanating from the work they have to perform or the place in which it is performed.

Over the past three decades, research has shown that the experience of occupational stress is closely related to the health and safety of individuals, and to the well-being of their organisations or institutions (Rees, 1995; Rees & Redferm, 2000). Furthermore, research has also shown that work-related stress can have a wide range of negative effects on the individual. Van Dick and Wagner (2001) noted that in the long run, these negative effects could lead to physiological and biochemical changes, accompanied by psychosomatic and even chronic symptoms, such as coronary heart diseases (Greenglass, 1996; Julkunen, 1996). O'Leary (1990)

identified physiological reactions such as high blood pressure or the suppression of immune responses as short-term outcomes of stress.

Educator stress is seen mainly as a negative effect, with diverse psychological (e.g. job dissatisfaction), physiological (e.g. high blood pressure), and behavioural (e.g absenteeism) correlations (Jackson, 2004). Smith, Brice, Collins, Matthews and McNamara (2000) showed that, of the different occupational groups, stress was the most prevalent amongst educators. Van Wyk (2006c) developed a measure to describe occupational stress among educators in terms of 5 factors. The first factor, labelled *Support and Communication,* dealt mostly with communication between the individual educator and his/her colleagues and supervisor. This factor also includes communication from the organisation with regard to clearly delineated roles and responsibilities. The second factor, *Rewards and Participation,* was mostly related to financial rewards, but also to participation, which may be seen as an intrinsic reward factor. The third factor, *Job Insecurity*, had to do with feelings of security related to actual work, i.e. working in the same job and at the same level over the next year. The fourth factor, *Role Overload,* dealt with doing work under time pressure and repetitively, and had an element of cognitive overload, referring to attending to many things at the same time. A large component of the factor also dealt with dealing with difficult learners and emotionally upsetting and personally affecting situations. The fifth and last factor, *Task Characteristics*, had to do with variety within the job, the use of personal skills and abilities, opportunities for growth and learning, achievement, independence and planning.

Optimism

Carver and Scheier (2002) suggested that dispositional optimism could be defined as a person's positive outlook towards life events. It seems that optimistic people are better equipped to handle stress than pessimistic people. Optimists rely on coping strategies which could help to control or modify aspects of stressors, seek information, and are involved in planning and positive re-framing (Jackson, Weiss, & Lundquist, 2001). Pessimists tend to make use of strategies such as negative coping, cognitive or behavioural avoidance, denial, disengagement and/or substance abuse (Harju & Bolen, 1998). As a result, optimism has mostly been linked to active, persistent, health-oriented coping, while pessimism is more likely to be linked with emotional distress, health concerns and negative coping (Harju & Bolen, 1998). Cassidy (2000) identified optimism as an important factor in physical health, especially for people experiencing stress. Fry (1995) found that optimism had a significant relationship with daily hassles and self-esteem maintenance, burnout and physical illness.

Optimism may also be considered a *moderator* of stress. Moderator variables affect the direction and/or strength of the relation between independent (predictor) variables and dependent (criterion) variables (Baron & Kenny, 1986). A moderator variable exerts influence as a third variable on the zero-order (main effect) correlation between two other variables. Stated differently, the influence of a moderator variable is a function of the relationship between the moderator variable and the independent variable, significantly affecting the main relationship between the independent and dependent variable. Based on recommendations from previous research (Rothmann, 2003; Jackson, 2004), health in occupational settings should be researched by making use of an integrated model of work well-being, consisting of both burnout and work engagement. Situational causes, such as job demands and job resources, and individual causes, as well as the outcomes of well-being, such as optimism, ill health and organisational commitment, should be included in this model. The objective of this research is therefore to investigate the possible moderating effect of optimism on burnout, engagement and job stress on the one hand, and the physical and psychological health of educators on the other.

The above discussion leads to the following hypotheses:

H1: Burnout, engagement, job stress and optimism can be used to predict the health of educators in the Goldfield region of the Northern Free State province, controlling for the moderating effect of optimism.

H0: Burnout, engagement, job stress and optimism cannot be used to predict health of educators in the Goldfield region of the Northern Free State province, whilst controlling for the moderating effect of optimism.

METHOD

Research design

A cross-sectional survey design, where a sample is drawn from a population at one point in time (Shaughnessy & Zechmeister, 1997), was used to attain the research objectives. The obvious advantage of the cross-sectional approach is time, with the shortcoming of cohort effects. The current sample, however, represents a diverse group of South Africans in terms of cultural background (as indicated by language), age and educational qualifications.

Participants

Participants were randomly selected from the total population of educators in the Goldfield region of the Northern Free State province. A sample of 469 educators was used from the total population of 1014 (i.e. 46,25% of the total population). Schools in the Goldfield region of the Free State province were randomly selected from an alphabetical list of school names, and all educators at said schools were asked to complete the questionnaire. Schools were randomly selected, since this is important in order to draw accurate conclusions about the entire group of interest (Spector, 2000).

The mean age of participants was 37,58 years, with a standard deviation of 9,08 (28,46 – 46,62 years old), while the mean years of experience was 13,04, with a standard deviation of 8,89 (4,15 – 21,93 years of experience). Most participants' (39,60%) indicated that their home language was an African language, whilst only 17,02% of the participant's indicated that their home language was English. There are some difference between the participants and the total population, as 25,40% of the population of educators in the Goldfield region of the Free State province speak Afrikaans, 3,49% speak English, and 71,12% speak an African language (J. B. Deacon, Administrator, Free State Education Department, personal communication, January 24, 2006). Regarding the gender of participants, 60,52% were female. This closely represents the population of educators in the Goldfield region of the Free State province, where 66% of the educators are female, and 34% are male.

Measuring battery

Five measuring instruments were used in this study. The Maslach Burnout Inventory-General Survey or MBI-GS (Schaufeli et al., 1996), the Utrecht Work Engagement Scale or UWES (Schaufeli et al., 2002), the *Life Orientation Test - Revised* or LOT-R (Scheier, Carver & Bridges, 1994), The Health Subscales of the ASSET, which stands for 'An Organisational Stress Screening Evaluation Tool' (Cartwright & Cooper, 2002), and a measure of educator occupational stress, the Educators Stress Questionnaire or ESQ (Van Wyk, 2006c). A biographical questionnaire was also administered.

An adapted version of the *Maslach Burnout Inventory – General Survey (MBI-GS)* (Schaufeli et al., 1996) was used to measure respondents' relationships with their work. The MBI-GS has three subscales: Exhaustion (Ex) (five items; e.g. "I feel used up at the end of the workday"), Cynicism (Cy) (five items; e.g.

"I have become less enthusiastic about my work") and Professional Efficacy (PE) (six items; e.g. "In my opinion, I am good at my job"). Together the subscales of the MBI-GS provide a three-dimensional perspective on burnout. Test-retest reliabilities after one year were 0.65 (Exhaustion), 0.60 (Cynicism) and 0.67 (Professional Efficacy) (Schaufeli et al., 1996). All items are scored on a 7-point frequency rating scale ranging from 0 ("never") to 6 ("daily"). High scores on Ex and Cy, and low scores on PE are indicative of burnout. Depersonalisation (from the *MBI-Health Services Survey*, Maslach & Jackson, 1986) describes an unfeeling and impersonal response towards recipients of one's care or service. Although the Depersonalisation and Cynicism constructs can be said to be related, Depersonalisation presents a more specific interpersonal focus than Cynicism, which refers to a general attitude of cynicism regarding work, the employing organisation, colleagues, or the recipients of ones' service. The MBI-GS was found to be psychometrically sound in the Goldfield region of the Free State Province (Van Wyk, 2006a). Studies on construct equivalence have also indicated ample equivalence for these three dimensions of burnout in the Goldfield region (Pienaar & Van Wyk, 2006).

The *Utrecht Work Engagement Scale* or UWES (Schaufeli et al., 2002) was used to measure the levels of engagement of participants. Although work engagement is conceptually seen as the positive antithesis of burnout, it is operationalised in its own right. Work engagement is a concept that includes three dimensions: 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"). Engaged workers are characterised by high levels of vigour and dedication, and they are immersed in their jobs. The UWES is scored on a seven-point frequency rating scale, varying from 0 ("never") to 6 ("always"). Van Wyk (2006a) found satisfactory reliability estimates for the UWES for a sample of secondary school educators in the Goldfield region of the Free State province.

The *Life Orientation Test - Revised* (LOT-R), a ten-item measure, was developed by Scheier et al. (1994) to measure dispositional optimism. Six items contribute to the optimism score and four items are fillers. The LOT-R is measured on a five-point Likert Scale, ranging from 5 (strongly agree) to 1 (strongly disagree). The LOT-R was found to have adequate internal consistency (Cronbach's $\alpha = 0{,}78$) and excellent convergent and discriminant validity (Scheier et al., 1994). Based on a sample of 204 college students, Harju and Bolen (1998) obtained a Cronbach alpha coefficient of 0,75.

The Health Subscales of the ASSET, which stands for 'An Organisational Stress Screening Evaluation Tool', were developed by Cartwright and Cooper (2002) to assess the respondents' level of health. The Health

Subscales consist of 18 items arranged on two subscales: Physical health and Psychological well-being. All items on the Physical health subscale relate to physical symptoms of stress. The role of this subscale is to give an insight into physical health, not an in-depth clinical diagnosis. The items listed on the Psychological well-being subscale are described as symptoms of stress-induced mental ill health. Johnson and Cooper (2003) found that the Psychological wellbeing subscale has good convergent validity with an existing measure of psychiatric disorders, the General Health Questionnaire or GHQ-12 (Goldberg & Williams, 1988).

An Educators Stress Questionnaire (ESQ), developed by the researcher (Van Wyk, 2006c), was used to measure the work-related stress of educators. Items were placed on a Likert-type scale, with anchors of 1 (Never), 2 (Sometimes), 3 (Often) and 4 (Always). The questionnaire starts with a statement of "How often...", and then gives statements to which participants have to respond. The measure covers 5 factors, namely *Support and Communication* (12 items; e.g. "Do you get on well with your supervisor"), *Rewards and Participation* (7 items; e.g. "Does your job offer you the possibility to progress financially"), *Job insecurity* (3 items; e.g. "Do you need to be more secure that you will still be working in one year's time?"), *Role overload* (6 items; e.g. "Do you work under time pressure?") and lastly *Task characteristics* (8 items; e.g. "Does your work make sufficient demands on all your skills and capacities?"). Van Wyk (2006c) found satisfactory Cronbach alpha coefficients for all 5 factors.

A Biographical questionnaire was administered which requested participants to supply their age, gender, marital status, years of experience and home language.

Statistical analysis

The statistical analysis was carried out with the help of the SPSS-program (SPSS, 2003). The programme was used to carry out statistical analysis regarding the reliability and validity of the measuring instruments and descriptive statistics. Cronbach alpha coefficients were used to assess the reliability and validity of the measuring instruments (Clark & Watson, 1995). Descriptive statistics (e.g. means, standard deviations, skewness and kurtosis) and inferential statistics were used to analyse the data. A cut-off point of 0,30 (medium effect) was set for the practical significance of correlation coefficients (Cohen, 1988).

The main and interactive effects of optimism were tested using hierarchical multiple regression analysis. Demographic characteristics were controlled for in the first step. Separate analyses were carried out with

burnout and engagement respectively, since these two dimensions present independent indicators of psychological health (Schaufeli & Bakker, 2004). Also, the predictive power of each set of variables regarding physical and psychological health was separately investigated. Job stress, burnout or engagement, and optimism variables were entered in the second step of the regression. Interaction terms of burnout or engagement and job stress with the optimism variable were entered in the third step to test for the hypothesized moderating effect of optimism on the relation between job stress, burnout, engagement and health behaviours. Following the procedures described by Aiken and West (1991), the predictor variables were centred, i.e. the means of these variables were set to zero, while the standard deviations were kept intact.

Multivariate analysis of variance (MANOVA) was used to determine the significance of differences between the physical and psychological health for both the burnout (exhaustion, depersonalisation and professional efficacy) and the engagement (vigour, dedication and absorption) of demographic groups. MANOVA tests whether mean differences among groups on a combination of dependent variables are likely to have occurred by chance (Tabachnick & Fidell, 2001). In MANOVA, a new dependent variable that maximises group differences is created from the set of dependent variables. One-way analysis is then performed on the newly created dependent variable. Wilk's lambda was used to test the significance of the effects. Wilk's lambda is a likelihood-ratio statistic that tests the likelihood of the data under the assumption of equal-population mean vectors for all groups against the likelihood under the assumption that the population mean vectors are identical to those of the sample mean vectors for the different groups.

RESULTS

Table 1 gives the factor loadings and communalities for the extraction of principal components and Oblimin rotation on items from the Your Health questionnaire (Cartwright & Cooper, 2002). Names for factors are given in a footnote.

Table 1

Factor Loadings and Communalities (h^2) for the Extraction of Principal Components and Oblimin Rotation on Your Health-questionnaire items

	Item	F_1	F_2	h^2
1	Lack of appetite or over-eating	**0,67**	-0,26	0,18
2	Headaches	**0,56**	-0,10	0,21
3	Muscular tension/aches and pains	**0,45**	0,02	0,22

Table 1 continued

Factor Loadings and Communalities (h^2) for the Extraction of Principal Components and Oblimin Rotation on Your Health-questionnaire items

4	Constant irritability	**0,46**	0,14	0,33
5	Feeling or becoming angry with others too easily	**0,61**	0,02	0,36
6	Constant tiredness	**0,72**	-0,13	0,33
7	Feeling unable to cope	**0,53**	0,14	0,40
8	Having difficulty concentrating	**0,42**	0,29	0,44
9	Feeling nauseous or being sick	0,22	**0,45**	0,38
10	Tendency to drink more alcohol than usual	-0,29	**0,87**	0,23
11	Tendency to smoke more than usual	-0,29	**0,81**	0,18
12	Avoiding contact with other people	0,27	**0,43**	0,41
13	Unable to listen to other people	0,21	**0,46**	0,37

a: Factor labels F1: Physical health F2: Psychological health

Inspection of Table 1 shows that 2 factors were extracted, namely Physical health and Psychological health. These two factors explained 42,66% of the variance in the data. Variables were reasonably well defined by this factor solution: Communality values, as seen in Table 2, tend to be low to moderate. The first factor was labelled Physical health. This factor gives insight into physical symptoms that could be the outcome of stress. The second factor, which describes symptoms of mental ill health that may be stress-induced, was labelled Psychological health. With a cut-off point of 0,40 for the inclusion of a variable in the interpretation of a factor, five items were removed. These items did not load on either of the two factors, and dealt with indigestion or heartburn, insomnia, panic attacks, having trouble in making decisions, and mood swings. These items were subsequently removed from the analysis. One item, namely "Feeling nauseous or being sick" loaded on the psychological health factor, while it may be argued to be more indicative of physical health. For the purpose of this analysis, however, it clearly loaded with items indicating psychological health, and as such is taken as an indication of psychosomatic nausea or sickness, rather than physical ill health.

The descriptive statistics and alpha coefficients of the different measuring instruments are given in Table 2.

Table 2

Descriptive Statistics and Alpha Coefficients of the MBI-GS, UWES, Educators Stress Questionnaire, LOT-R and the Health Subscales of the ASSET

Item	Mean	SD	Skewness	Kurtosis	α
Burnout					
Emotional Exhaustion	10,62	3,98	-0,24	0,27	0,69
Depersonalisation	8,58	4,20	-0,40	-0,18	0,70
Professional Efficacy	21,19	5,43	0,31	-0,80	0,73
Engagement					
Vigour	12,09	3,30	0,11	0,30	0,67
Dedication	12,22	3,88	0,46	-0,50	0,78
Absorption	12,46	3,46	0,37	-0,33	0,61
Educator stress					
Rewards and Participation	19,01	4,25	-0,26	-0,98	0,82
Support and Communication	32,14	5,52	0,53	-0,31	0,78
Job Insecurity	6,03	1,86	-0,23	-0,41	0,84
Role Overload	14,52	2,48	0,39	0,34	0,68
Task Characteristics	19,66	3,38	0,51	0,17	0,75
Optimism	3,11	0,74	-0,67	0,56	0,66
Health					
Physical Health	2,51	0,51	-0,41	1,27*	0,75
Psychological Health	2,27	0,61	-0,35	-0,66	0,82

*High kurtosis

Table 2 shows acceptable Cronbach alpha coefficients compared to the guideline of $\alpha \geq 0,70$ for this study, and $\alpha \geq 0,55$ in basic research (Nunnally & Bernstein, 1994). Score distributions are also normal, with only Physical Health showing high kurtosis.

The product-moment correlation coefficients between constructs as derived from the different measures are reported in Table 3. Pearson correlations were used in most cases, except for physical health, where Spearman correlations were computed due to the high kurtosis.

Table 3

Correlation Coefficients between the Constructs

	Dimension	1	2	3	4	5	6	7	8	9	10	11	12	13
1	Optimism	-												
2	Rewards and Participation	0,26*	-											
3	Support and Communication	-0,10*	-0,17*	-										
4	Job Insecurity	0,32*+	0,14*	0,03	-									
5	Role Overload	-0,05	-0,31*+	0,15*	0,05	-								
6	Task Characteristics	-0,03	0,00	0,51*+	0,18*	0,08	-							
7	Vigour	0,08	0,12	-0,04	0,01	-0,05	0,01	-						
8	Dedication	0,09	0,10	-0,03	0,01	0,03	0,01	0,73*++	-					
9	Absorption	0,04	0,04	-0,03	0,00	0,01	-0,04	0,59*+	0,62*+	-				
10	Exhaustion	-0,06	-0,05	0,06	0,00	0,03	-0,04	-0,31*+	-0,25*	-0,10*	-			
11	Depersonalisation	0,07	-0,01	-0,05	0,10	-0,05	-0,06	-0,28*	-0,37*+	-0,30*	0,29*	-		
12	Professional Efficacy	0,01	0,03	-0,00	-0,06	0,07	-0,03	0,58*	0,73*++	0,64*++	-0,09	-0,41*+	-	
13	Physical Health	0,14*	0,09	-0,12*	0,01	0,23*	-0,21*	0,07	0,06	0,01	0,01	-0,04	0,06	-
14	Psychological Health	0,34*	0,45*	-0,41*	0,18*	-0,05*	-0,33*	0,11*	0,09	0,03	-0,05	0,05	0,04	0,58*

* Statistically significant: $p \leq 0.01$

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

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

Table 3 shows a positive statistically-significant relationship between Optimism and Rewards and Participation and Job Insecurity (practically significant, medium effect), but a negative statistically-significant relationship with Support and Communication. A positive statistically-significant relationship was also found between Optimism and both Physical and Psychological Health. The relationship between Psychological Health and Optimism was also practically significant (medium effect). A negative statistically-significant relationship was found between Rewards and Participation on the one hand, and Support and Communication, as well as Role Overload (practically significant, medium effect) on the other, but a positive statistically-significant relationship with Job Insecurity and Psychological Health (practically significant, medium effect). Support and Communication had a statistically-significant relationship with Role Overload, Task Characteristics (practically significant, large effect) as well as a negative statistically-significant relationship with Physical and Psychological Health (practically significant, medium effect). A statistically-significant relationship was found between Job Insecurity on the one hand, and Task Characteristics and Psychological Health on the other. Role Overload showed a positive statistically-significant relationship with Physical Health, and a negative statistically-significant relationship with Psychological Health. A

statistically-significant relationship also exists between Task Characteristics and Physical and Psychological Health, the latter being practically significant, with medium effect. Vigour showed a practically-significant relationship of large effect with Dedication, Absorption and Professional Efficacy, but a negative statistically-significant relationship with Depersonalisation and Exhaustion (practically significant of medium effect). Vigour also showed a statistically-significant relationship with Psychological Health. A practically-significant relationship of large effect was found between Dedication and Absorption, as well as Professional Efficacy, but a negative statistically-significant relationship with Exhaustion and Depersonalisation (practically significant, medium effect). Absorption showed a negative statistically-significant relationship with Exhaustion and Depersonalisation (practically significant, medium effect), but a practically-significant relationship of large effect with Professional Efficacy. Exhaustion showed a statistically-significant relationship with Depersonalisation. Depersonalisation showed a negative practically-significant relationship of medium effect with Professional Efficacy. A statistically-significant relationship (practically significant, large effect) was found between Physical Health and Psychological Health.

In concluding the analyses, regression analyses were carried out to estimate the relationships between burnout and physical and psychological health, and engagement and physical and psychological health. Results for the burnout and engagement analyses are reported separately.

Burnout

Table 4 gives the results of a multiple regression analysis with physical health as dependent variable, and biographical variables, optimism, burnout, job stress factors and the moderator terms as independent variables.

Table 4

Multiple Regression Analysis with Physical Health as Dependent Variable

Model		Unstandardized Coefficients		Standardized Coefficients	*t*	*p*	*F*	*R*	R^2	ΔR^2
		B	SE	Beta						
1	(Constant)	2,57	0,18		14,40	0,00	1,19	0,15	0,02	0,02
	Gender	-0,04	0,07	-0,03	-0,55	0,58				
	Age	-0,02	0,06	-0,04	-0,31	0,75				
	Marital status	-0,03	0,04	-0,05	-0,81	0,42				
	Years experience	0,00	0,06	-0,01	-0,04	0,97				
	Language	0,07	0,04	0,12	1,89	0,06**				
2	(Constant)	2,43	0,17		14,27	0,00	5,53	0,48	0,23	0,21
	Gender	-0,06	0,06	-0,05	-0,96	0,34				
	Age	0,00	0,06	-0,01	-0,08	0,94				
	Marital status	-0,01	0,03	-0,01	-0,24	0,81				
	Years experience	0,01	0,06	0,02	0,14	0,89				
	Language	0,10	0,04	0,16	2,43	0,02*				
	Optimism	0,15	0,05	0,20	3,33	0,00*				
	Exhaustion	0,00	0,01	0,00	-0,04	0,97				
	Depersonalisation	-0,01	0,01	-0,05	-0,82	0,41				
	Professional efficacy	0,00	0,01	0,03	0,51	0,61				
	Rewards and Participation	-0,01	0,01	-0,06	-0,91	0,36				
	Support and Communication	0,00	0,01	-0,04	-0,59	0,56				
	Job insecurity	0,01	0,02	0,02	0,27	0,79				
	Role overload	0,08	0,01	0,36	6,09	0,00*				
	Task characteristics	-0,03	0,01	-0,21	-3,30	0,00*				
3	(Constant)	2,43	0,17		14,12	0,00	3,87	0,50	0,25	0,02
	Gender	-0,06	0,06	-0,05	-0,93	0,35				
	Age	0,00	0,06	0,01	0,05	0,96				
	Marital status	0,00	0,03	-0,01	-0,08	0,94				
	Years experience	-0,01	0,06	-0,01	-0,08	0,93				
	Language	0,09	0,04	0,16	2,31	0,02*				
	Optimism	0,20	0,05	0,26	3,76	0,00*				
	Exhaustion	0,00	0,01	0,01	0,17	0,87				
	Depersonalisation	-0,01	0,01	-0,08	-1,28	0,20				
	Professional efficacy	0,00	0,01	0,03	0,45	0,65				
	Rewards and Participation	-0,01	0,01	-0,08	-1,15	0,25				
	Support and Communication	0,00	0,01	-0,02	-0,36	0,72				
	Job insecurity	0,00	0,02	0,00	-0,05	0,96				
	Role overload	0,08	0,01	0,36	6,06	0,00*				
	Task characteristics	-0,03	0,01	-0,21	-3,06	0,00*				
	Exhaustion x Optimism	0,00	0,01	0,02	0,26	0,79				
	Depersonalisation x Optimism	-0,01	0,01	-0,04	-0,62	0,53				
	Professional Efficacy x Optimism	0,02	0,01	0,13	1,95	0,05*				

Table 4 continued

Multiple Regression Analysis with Physical Health as Dependent Variable

Model		Unstandardized Coefficients		Standardized Coefficients	t	p	F	R	R^2	ΔR^2
		B	SE	Beta						
3	Rewards and Participation x Optimism	0,01	0,01	0,07	1,01	0,31				
	Support and Communication x Optimism	0,00	0,01	-0,01	-0,14	0,89				
	Job Insecurity x Optimism	0,00	0,02	0,01	0,10	0,92				
	Role Overload x Optimism	-0,01	0,02	-0,02	-0,31	0,76				
	Task Characteristics x Optimism	-0,01	0,01	-0,06	-0,80	0,43				

*$p \leq 0.05$

**$p \leq 0.10$

In Table 4 it can be seen that, in the first step of the regression analyses, the home language of participants was the only significant biographical predictor of physical health ($p \leq 0,10$), explaining 2% of the variance in physical health. In step 2, participants' home language and experiences of optimism, role overload and task characteristics proved to be significant predictors of physical health ($\Delta R^2 = 0,21$; $p \leq 0,05$). The latter variables explained 23% of the variance in physical health. When entering the interaction terms to test for the moderating effect of optimism in step 3, educators' home language, their experiences of optimism, role overload and task characteristics were again statistically-significant predictors of physical health. However, the interaction between Professional Efficacy and Optimism also proved to be a significant predictor of physical health. The conclusion, based on this table, therefore is that optimism makes a direct contribution to physical health, and also has a moderating effect on the professional efficacy aspect of burnout. The interaction term explained an additional 2% of the variance in physical health. Optimism did not prove to have a moderating effect on job stress with regard to physical health.

Table 5 gives the results of a multiple regression analysis with psychological health as dependent variable, and biographical variables, optimism, burnout, job stress factors and the moderator terms as independent variables.

Table 5

Multiple Regression Analysis with Psychological Health as Dependent Variable

Model		Unstandardized Coefficients		Standardized Coefficients	t	p	F	R	R^2	ΔR^2
		B	SE	Beta						
1	(Constant)	1,82	0,18		10,23	0,00	10,37	0,41	0,17	0,17
	Gender	-0,01	0,07	-0,01	-0,19	0,85				
	Age	-0,03	0,06	-0,05	-0,41	0,68				
	Marital status	-0,01	0,04	-0,01	-0,14	0,89				
	Years experience	0,01	0,06	0,02	0,21	0,83				
	Language	0,26	0,04	0,40	7,00	0,00*				
2	(Constant)	2,09	0,16		13,26	0,00	13,95	0,65	0,43	0,26
	Gender	-0,02	0,06	-0,02	-0,30	0,76				
	Age	-0,05	0,05	-0,08	-0,85	0,40				
	Marital status	0,00	0,03	-0,01	-0,13	0,90				
	Years experience	0,04	0,05	0,08	0,85	0,40				
	Language	0,12	0,04	0,18	3,15	0,00*				
	Optimism	0,17	0,04	0,21	4,19	0,00*				
	Exhaustion	0,00	0,01	0,00	-0,05	0,96				
	Depersonalisation	0,00	0,01	0,01	0,09	0,93				
	Professional efficacy	0,00	0,01	0,02	0,42	0,67				
	Rewards and Participation	0,04	0,01	0,28	5,09	0,00*				
	Support and Communication	-0,02	0,01	-0,19	-3,39	0,00*				
	Job insecurity	0,03	0,02	0,10	1,92	0,06**				
	Role overload	0,03	0,01	0,15	2,86	0,01*				
	Task characteristics	-0,04	0,01	-0,25	-4,45	0,00*				
3	(Constant)	2,07	0,16		12,99	0,00	9,20	0,67	0,44	0,01
	Gender	0,00	0,06	0,00	0,04	0,97				
	Age	-0,06	0,05	-0,10	-1,06	0,29				
	Marital status	0,00	0,03	-0,01	-0,09	0,93				
	Years experience	0,05	0,05	0,10	1,03	0,31				
	Language	0,11	0,04	0,17	2,98	0,00*				
	Optimism	0,22	0,05	0,26	4,48	0,00*				
	Exhaustion	0,00	0,01	0,00	0,04	0,97				
	Depersonalisation	0,00	0,01	-0,01	-0,18	0,86				
	Professional efficacy	0,00	0,01	0,02	0,27	0,78				
	Rewards and Participation	0,04	0,01	0,27	4,67	0,00*				
	Support and Communication	-0,02	0,01	-0,20	-3,43	0,00*				
	Job insecurity	0,03	0,02	0,08	1,52	0,13				
	Role overload	0,03	0,01	0,14	2,74	0,01*				
	Task characteristics	-0,04	0,01	-0,25	-4,19	0,00*				
	Exhaustion x Optimism	0,00	0,01	0,00	0,06	0,95				
	Depersonalisation x Optimism	-0,02	0,01	-0,11	-1,83	0,07*				
	Profession Efficacy x Optimism	-0,01	0,01	-0,05	-0,85	0,40				

Table 5 continued

Multiple Regression Analysis with Psychological Health as Dependent Variable

Model		Unstandardized Coefficients		Standardized Coefficients	t	p	F	R	R^2	ΔR^2
		B	SE	Beta						
3	Rewards and Participation x Optimism	0,01	0,01	0,05	0,92	0,36				
	Support and Communication x Optimism	-0,01	0,01	-0,08	-1,35	0,18				
	Job Insecurity x Optimism	-0,01	0,02	-0,02	-0,32	0,75				
	Role Overload x Optimism	-0,01	0,02	-0,02	-0,37	0,71				
	Task Characteristics x Optimism	0,00	0,01	-0,01	-0,22	0,83				

*$p<0.05$

**$p<0.10$

In the first step of Table 5, it can be seen that the home language of participants was a significant predictor of psychological health ($p\leq0,05$). explaining 17% of the variance in psychological health. In step 2, educators' home language, their levels of optimism, experiences of rewards and participation, support and communication, job insecurity ($p\leq0,10$), role overload and task characteristics proved to be significant predictors of psychological health ($\Delta R^2 = 0,26$; $p\leq0,05$). The latter variables explained 43% of the variance in psychological health. When entering the interaction terms to test for the moderating effect of optimism in step 3, educators' home language and experiences of optimism, rewards and participation, support and communication, role overload, task characteristics, and the interaction term of Depersonalisation and Optimism proved to be statistically-significant predictors of psychological health. The conclusion, based on this table, therefore is that optimism makes a direct contribution to psychological health, and has a moderating effect on the depersonalisation aspect of burnout. The moderating effect, however, only made a small contribution, and explained an additional 1% of the variance. Optimism did not prove to have a moderating effect on job stress with regard to psychological health.

Engagement

Table 6 gives the results of a multiple regression analysis with physical health as dependent variable, and biographical variables, optimism, engagement, job stress factors and the moderator terms as independent variables.

Table 6

Multiple Regression Analysis with Physical Health as Dependent Variable

Model		Unstandardized Coefficients		Standardized Coefficients	*t*	*p*	*F*	*R*	R^2	ΔR^2
		B	SE	Beta						
1	(Constant)	2.62	0,18		14,57	0,00	1,54	0,17	0,03	0,03
	Gender	-0,04	0,07	-0,04	-0,60	0,55				
	Age	-0,05	0,06	-0,10	-0,81	0,42				
	Marital status	-0,03	0,03	-0,06	-0,89	0,38				
	Years experience	0,02	0,06	0,04	0,30	0,77				
	Language	0,08	0,04	0,13	2,05	0,04*				
2	(Constant)	2,45	0,17		14,07	0,00	4,71	0,45	0,20	0,17
	Gender	-0,05	0,06	-0,04	-0,74	0,46				
	Age	-0,03	0,06	-0,07	-0,56	0,58				
	Marital status	-0,01	0,03	-0,02	-0,33	0,74				
	Years experience	0,03	0,06	0,06	0,52	0,61				
	Language	0,10	0,04	0,16	2,42	0,02*				
	Optimism	0,11	0,05	0,16	2,55	0,01*				
	Vigour	0,01	0,01	0,09	1,03	0,30				
	Dedication	0,00	0,01	-0,01	-0,10	0,92				
	Absorption	0,00	0,01	-0,03	-0,39	0,70				
	Rewards and Participation	-0,01	0,01	-0,05	-0,75	0,45				
	Support and Communication	0,00	0,01	-0,02	-0,29	0,77				
	Job insecurity	-0,01	0,02	-0,04	-0,63	0,53				
	Role overload	0,07	0,01	0,35	5,71	0,00*				
	Task characteristics	-0,03	0,01	-0,20	-3,15	0,00*				
3	(Constant)	2,47	0,17		14,28	0,00	4,08	0,51	0,26	0,06
	Gender	-0,05	0,06	-0,04	-0,77	0,44				
	Age	-0,01	0,06	-0,01	-0,09	0,93				
	Marital status	-0,01	0,03	-0,01	-0,14	0,89				
	Years experience	0,00	0,06	0,00	0,02	0,98				
	Language	0,08	0,04	0,14	2,08	0,04*				
	Optimism	0,15	0,05	0,20	2,78	0,01*				
	Vigour	0,01	0,01	0,07	0,83	0,41				
	Dedication	0,00	0,01	0,03	0,29	0,78				
	Absorption	0,00	0,01	-0,02	-0,26	0,80				
	Rewards and Participation	-0,01	0,01	-0,06	-0,83	0,41				
	Support and Communication	0,00	0,01	-0,02	-0,24	0,81				
	Job insecurity	-0,01	0,02	-0,04	-0,65	0,52				
	Role overload	0,07	0,01	0,34	5,60	0,00*				
	Task characteristics	-0,03	0,01	-0,19	-2,72	0,01*				
	Vigour x Optimism	0,07	0,02	0,32	3,76	0,00*				
	Dedication x Optimism	-0,03	0,02	-0,15	-1,61	0,11				
	Absorption x Optimism	0,00	0,02	0,01	0,09	0,93				
	Rewards and Participation x Optimism	0,01	0,01	0,03	0,47	0,64				

Table 6 continued

Multiple Regression Analysis with Physical Health as Dependent Variable

Model		Unstandardized Coefficients		Standardized Coefficients	t	p	F	R	R^2	ΔR^2
		B	SE	Beta						
3	Support and Communication x Optimism	0,00	0,01	-0,04	-0,57	0,57				
	Job Insecurity x Optimism	-0,02	0,02	-0,06	-0,91	0,36				
	Role Overload x Optimism	0,00	0,02	-0,01	-0,21	0,83				
	Task Characteristics x Optimism	-0,01	0,01	-0,03	-0,40	0,69				

*$p \leq 0.05$

**$p \leq 0.10$

In Table 6, in the first step of the regression analyses, the home language of educators was a significant predictor of physical health ($p \leq 0,05$), explaining 3% of the variance in physical health. In step 2, educators' home language and their experiences of optimism and job stress attributable to role overload and task characteristics proved to be significant predictors of physical health ($\Delta R^2 = 0,17$; $p \leq 0,05$). The latter variables explained 20% of the variance in physical health. When entering the interaction terms to test for the moderating effect of optimism in step 3, educators' home language and their experiences of optimism, stress due to role overload and task characteristics, as well as the interaction between Vigour and Optimism, proved to be statistically-significant predictors of physical health. The conclusion, based on this table, is therefore that optimism makes a direct contribution to physical health, and also moderates the contribution of the Vigour aspect of engagement to physical health. Optimism did not prove to have a moderating effect on job stress with regard to physical health.

Table 7 gives the results of a multiple regression analysis with psychological health as dependent variable, and biographical variables, optimism, engagement, job stress factors and the moderator terms as independent variables.

Table 7

Multiple Regression Analysis with Psychological Health as Dependent Variable

Model		Unstandardized Coefficients B	Unstandardized Coefficients SE	Standardized Coefficients Beta	*t*	*p*	*F*	*R*	R^2	ΔR^2
1	(Constant)	1.94	0.18		10.68	0.00	12,31	0,43	0,19	0,19
	Gender	-0,08	0,07	-0,07	-1,18	0,24				
	Age	-0,03	0,06	-0,05	-0,46	0,65				
	Marital status	0,00	0,03	-0,01	-0,12	0,91				
	Years experience	0,01	0,06	0,01	0,10	0,92				
	Language	0,27	0,04	0,42	7,33	0,00*				
2	(Constant)	2,12	0,16		13,24	0,00	14,88	0,67	0,45	0,26
	Gender	-0,04	0,06	-0,03	-0,67	0,51				
	Age	-0,05	0,05	-0,10	-0,96	0,34				
	Marital status	0,00	0,03	0,01	0,13	0,90				
	Years experience	0,05	0,05	0,09	0,92	0,36				
	Language	0,11	0,04	0,18	3,16	0,00*				
	Optimism	0,18	0,04	0,23	4,44	0,00*				
	Vigour	0,02	0,01	0,14	1,94	0,05*				
	Dedication	0,00	0,01	-0,01	-0,19	0,85				
	Absorption	-0,02	0,01	-0,09	-1,43	0,15				
	Rewards and Participation	0,04	0,01	0,29	5,14	0,00*				
	Support and Communication	-0,02	0,01	-0,18	-3,21	0,00*				
	Job insecurity	0,02	0,02	0,06	1,26	0,21				
	Role overload	0,03	0,01	0,12	2,40	0,02*				
	Task characteristics	-0,04	0,01	-0,25	-4,50	0,00*				
3	(Constant)	2,11	0,16		12,95	0,00	9,79	0,68	0,46	0,02
	Gender	-0,03	0,06	-0,03	-0,51	0,61				
	Age	-0,04	0,06	-0,08	-0,79	0,43				
	Marital status	0,01	0,03	0,01	0,23	0,82				
	Years experience	0,04	0,05	0,08	0,75	0,45				
	Language	0,11	0,04	0,17	2,98	0,00*				
	Optimism	0,20	0,05	0,24	4,05	0,00*				
	Vigour	0,02	0,01	0,13	1,74	0,08**				
	Dedication	0,00	0,01	0,00	0,01	0,99				
	Absorption	-0,02	0,01	-0,09	-1,46	0,15				
	Rewards and Participation	0,04	0,01	0,28	4,82	0,00*				
	Support and Communication	-0,02	0,01	-0,19	-3,29	0,00*				
	Job insecurity	0,02	0,02	0,06	1,18	0,24				
	Role overload	0,03	0,01	0,12	2,24	0,03*				
	Task characteristics	-0,04	0,01	-0,23	-3,90	0,00*				
	Vigour x Optimism	0,02	0,02	0,08	1,08	0,28				
	Dedication x Optimism	-0,02	0,02	-0,11	-1,32	0,19				
	Absorption x Optimism	0,02	0,02	0,07	1,07	0,29				
	Rewards and Participation x Optimism	0,00	0,01	0,02	0,31	0,76				

Table 7 continued

Multiple Regression Analysis with Psychological Health as Dependent Variable

Model	Unstandardized Coefficients		Standardized Coefficients	t	p	F	R	R^2	ΔR^2
	B	SE	Beta						
Support and Communication x Optimism	-0,01	0,01	-0,10	-1,76	0,08*				
Job Insecurity x Optimism	-0,01	0,02	-0,03	-0,50	0,62				
Role Overload x Optimism	0,01	0,02	0,02	0,40	0,69				
Task Characteristics x Optimism	0,00	0,01	0,02	0,27	0,79				

*$p \leq 0.05$

**$p \leq 0.10$

In Table 7, in the first step of the regression analyses, it can be seen that educators' home language was a significant predictor of psychological health ($p \leq 0,05$), explaining 19% of the variance in psychological health. In step 2, educators' home language and their experiences of optimism, vigour, stress due to rewards and participation, support and communication, role overload and task characteristics, proved to be significant predictors of physical health ($\Delta R^2 = 0,26$; $p \leq 0,05$). The latter variables explained 45% of the variance in psychological health. When entering the interaction terms to test for the moderating effect of optimism, home language, optimism, vigour ($p \leq 0,10$), rewards and participation, support and communication, role overload, and task characteristics, but also the interaction term of Support and Communication and Optimism, proved to be statistically-significant predictors of psychological health. The conclusion, based on this table, therefore is that optimism makes a direct contribution to educators' psychological health, and has a moderating effect on the support and communication aspect of job stress with regard to psychological health.

Since the home language of participants proved to be a constant predictor of physical and psychological health for both the burnout and engagement variables, it was decided to specifically investigate differences between the 3 language groups in terms of their physical and psychological health. The results of the MANOVA analyses are reported in Table 8. Means are given in parentheses.

Table 8

Differences Regarding Physical and Psychological Health for Different Language Groups

Dependent Variable	Language category 1	Language category 2	ΔMean	p
Physical Health	Afrikaans (2,405)	English (2,544)	0,14	0,15
		African (2,573)	0,17	0,01*
	English	Afrikaans	0,14	0,15

Table 8 continued

Differences Regarding Physical and Psychological Health for Different Language Groups

		African	-0,03	1,00
Psychological Health	Afrikaans (2,046)	English	-0,09	0,81
		African (2,520)	-0,47	0,00*
	English (2,133)	Afrikaans	0,09	0,81
		African	-0,39	0,00*

Inspection of Table 8 reveals that the physical health of African-language-speaking educators is significantly better than those educators who speak Afrikaans. The same is true for psychological health, where Afrikaans-speaking educators experience significantly lower psychological health than their African-language-speaking counterparts. English-speaking educators also experience significantly lower psychological health when compared to African-language-speaking educators.

DISCUSSION

The aim of this study was to determine if optimism, burnout, engagement and job stress could be used to predict the health of educators in the Goldfield region of the Northern Free State province, while also controlling for the moderating effect optimism may have on their reported physical and psychological health.

To reach the objectives of this study, five measuring instruments were used. The burnout (MBI-GS) and engagement measures (UWES), as well as the Educators Stress Questionnaire (ESQ), which was developed by the author, showed good to high alpha coefficients. In terms of the job stress dimensions identified by the newly developed questionnaire, only the dimension of role overload was somewhat below the general guideline of $\alpha \geq 0,70$. Yet given that this measure is in a developmental phase, this alpha value is encouraging. Nunnally and Bernstein (1994) suggest that values as low as $\alpha \geq 0,55$ may be deemed acceptable in exploratory research. Optimism showed a reliability coefficient of 0,66 which is somewhat low, given that the measure is well-established in previous research. Some caution therefore may need to be exercised in interpreting the results. The Health Subscales of the ASSET (Cartwright & Cooper, 2002) also showed acceptable reliability coefficients, where Physical Health showed an alpha coefficient of 0,75, and Psychological Health showed an alpha coefficient of 0,82.

Various relationships were found between the different factors. Experiences of optimism had a positive relationship with perceiving job stressors due to rewards and participation, as well as job insecurity. This

makes sense, as educators who perceive themselves as equitably rewarded, be it financially or by means of promotion, and who perceive themselves as experiencing opportunities to partake in decisions affecting them, could experience higher levels of optimism. Coetzer (2004) found similar results where employees in an insurance company experienced higher levels of optimism when experiencing greater participation in the workplace. Educators who experience higher levels of optimism are also more prone to experience job (in)security. Lindstrom, Leino, Seitsamo and Tortila (1997) found that individuals who experience a lack of job security (i.e. high job insecurity) were prone to experience more job dissatisfaction. Those who are less satisfied with their jobs may also be hypothesized to experience less optimism. Experiences of optimism also showed a negative relationship with job stress attributable to experiences of support and communication. Thus, educators who experience more stress based on a lack of support from colleagues and supervisors, and experience limited communication with them, could feel less optimistic about their jobs. Coetzer (2004) found similar results in a study among employees working in the insurance industry, with employees experiencing significantly less optimism when they didn't receive the necessary support and communication from colleagues and supervisors. Harju and Bolen (1998) furthermore indicated that optimistic individuals experience significantly less stress than those individuals who are less optimistic.

Optimism was also positively related to Physical and Psychological Health. Coetzer (2004) found opposite results in her study amongst employees in an insurance company. Their experience of optimism was negatively related to their physical and psychological health. Harju and Bolen (1998), as well Schweizer, Beck-Syeffer and Schneider (1999), have however indicated that an individual's well-being, be it physical or psychological, is mainly attributable to his/ her experiencing events with optimism. Results of this study confirm these previous findings in indicating that optimistic educators may also be prone to show greater physical and psychological health.

Negative relationships were indicated between perceiving job stress relating to rewards and participation on the one hand, and stress relating to support and communication and role overload on the other. A positive relationship was indicated between perceiving job stress relating to rewards and participation on the one hand, and stress due to job insecurity and educators' psychological health on the other hand. Educators who experience a lack of rewards, be it financial or promotional, would be less able to deal with stress if they perceived themselves as not having the necessary support from colleagues and supervisors. Jackson (2004) found similar results in a study amongst educators in the North West province. Educators might also experience more stress as the amount of work increases, but the rewards for doing more work are limited. Educators who do feel that they are adequately rewarded financially or by means of promotion, appear less

worried about job security. When an educator receives rewards, it might give him/her the feeling of being valued, which in turn may enhance his/her perceptions of job security. It also makes sense that those educators who experience less stress due to the lack of rewards and participation, experience better psychological health. Harju and Bolen (1998) and Lai (1996) indicated that a higher degree of psychological health could be achieved if individuals experienced less stress.

Educators experiencing stress due to support and communication also seem to experience stress due to role overload and task characteristics. These same educators show lower physical health and psychological health. Educators who have more support from their colleagues and supervisors, as well as those who can communicate more with their colleagues and supervisors, may feel that they experience less stress due to role overload as they perceive themselves as having the necessary social support structures to deal with their stress. Having the support of colleagues and supervisors might also contribute to educators' experience of being able to learn more and grow in their positions, and having the opportunity to carry out and plan their own activities. This finding is confirmed by Jackson in a study amongst school educators in the North West province (Jackson, 2004). Those educators who experience higher levels of stress due to a lack of support and communication, will also experience a lower lever of physical and psychological health. These findings are also confirmed by Coetzer (2004). Harju and Bolen (1998), as well as Sumi, Horie and Hayakawa (1997), indicated that individuals who receive social support from colleagues, friends and supervisors, will experience higher levels of physical and emotional well-being.

A positive relationship was found between stress attributable to job insecurity and task characteristics and educators' psychological health. Educators who feel that they do not experience opportunities to grow and learn more in their jobs, may also experience stress due to job insecurity. Feeling 'stuck' in an unrewarding job may indicate to educators that they need to investigate better opportunities – in other words, negatively affecting their job security by forcing them to consider better alternatives. Having more job security could also contribute to educators experiencing better psychological health. Coetzer (2004) confirmed these findings in her study among employees in an insurance company. Moore, Grunberg and Greenberg (2006) found that employees who experienced job insecurity had very high levels of depression, which could be seen as a significant psychological illness. Dekker and Schaufeli (1995) found similar results in a study among employees in a large transport organisation, indicating that individuals who experience a threat of job loss, suffer severe psychological ill health.

Educators' experience of job stress due to role overload was positively related to their physical health, but negatively related to their psychological health. Role overload dealt with doing work under time pressure and repetitively, and referred to having to attend to many things at the same time. A large component of the factor also dealt with dealing with difficult learners and emotionally upsetting and personally affecting situations. Attending to different things at the same time might give educators the opportunity to be more physically active, which may serve as a diversion from stress experienced in their place of work. Coetzer (2004) found similar results among insurance workers where having to do repetitive work and working under time pressure positively influenced their physical health. The same is true for educators in the North West Province, where Jackson (2004) found that educators who perceive themselves as having too much work, also experienced significantly better physical health. However, experiencing an overload of emotionally and personally affecting situations could act to lower educators' experiences of psychological well-being. Hence, experiencing more stress due to emotional upsetting situations is bound to influence educators' psychological health. Van Dick and Wagner (2001) commented that continuous exposure to negative emotional effects would contribute to individuals experiencing negative psychological effects.

Educators who feel that they have the opportunity to grow and learn more, will also experience less stress due to job insecurity. Having more job security could also contribute to educators experiencing better physical and psychological health. Coetzer (2004) confirms this finding in her study among employees in an insurance company.

A positive relationship was also found between educators' experiences of stress due to their task characteristics and their physical health, while this stress experience was negatively related to psychological health. Having different things to do and having a variety of activities might contribute to better physical health as educators would have the opportunity to do different things and be more physically active. Another component of the dimension of task characteristics related to working independently. This might indicate why educators experience lower levels of psychological health, as they do not have a colleague or supervisor to assist them and to share ideas on better education or better health. Furthermore, whilst educators might have the opportunity to develop themselves, the high demands of school work may also contribute to educators experiencing a disarray of emotions (caused by job demands vs. opportunities for development), in turn causing them to experience a lower level of psychological health. Coetzer (2004) also found that employees in an insurance company experience lower levels of psychological health when they need to work with greater independence.

The relationships between the burnout and engagement constructs reflected those found in previous research (Jackson, 2004; Schaufeli et al., 2002; Van Wyk, 2006b). In general, these two constructs are negatively related, but the Professional Efficacy component correlates negatively with the other dimensions of burnout, and positively with all dimensions of engagement.

When investigating the role of biographical variables, optimism, burnout and job stress in relation to educators' physical health, multiple regression analysis revealed that it is best predicted by educators' home language, levels of optimism, and stress experiences related to role overload and task characteristics. Educators' home language was found to predict physical health. This might be an indication that educators who experience difficulties in understanding the rules and policies of the education department due to language barriers, may experience more stress, thus impacting on their physical health.

According to Fry (1995), optimistic individuals are more prone to experience a healthy lifestyle than those who are pessimistic. This finding is reflected here, with levels of optimism predicting educators' physical health. Role overload, which included doing work under time pressure and repetitively, was found to be a predictor of physical health. This dimension also had an element of cognitive overload, referring to attending to many things at the same time. A large component of the factor also dealt with dealing with difficult learners and emotionally upsetting and personally affecting situations. Educators who perceive themselves as having more stress due to the amount of work that they need to perform, as well as dealing with difficult learners, could be prone to experience lower levels of physical health. The findings with regard to role overload are in line with previous research among educators (Jackson, 2004).

Physical health was also predicted by stress experienced due to task characteristics. Task characteristics had to do with variety in the job, making use of personal skills and abilities, opportunities for growth and learning, achievement, independence and planning. Educators who experience more opportunities to grow and learn, will be prone to experience higher levels of physical health. Coetzer (2004) also found task characteristics to be a significant predictor of well-being.

Interestingly, none of the burnout components made any direct contribution to physical health, yet optimism proved to have a moderating effect on the professional efficacy aspect of burnout. This finding suggests that optimism is also an important moderating variable in educators' experience of physical health as affected by burnout. Optimism has previously been shown to be an important variable in terms of physical health (Fry, 1995). Coetzer (2004) also found that optimism was a moderating variable in the experience of physical and

psychological health. It makes sense, seeing that the more effective one gets at doing something, the more optimistic one could become regarding the outcomes of one's actions. The contrary is also true, in the sense that when one cannot perform well and be effective in one's job, one is prone to feelings of pessimism, which may in turn relate negatively to experiences of health.

When investigating the roles of biographical variables, optimism, burnout and job stress in relation to educators' psychological health, educators' home language, their levels of optimism, and their experiences of job stress due to rewards and participation, support and communication, role overload and task characteristics, were found to be significant contributors to educators' psychological health. Educators who do not feel optimistic about their jobs might experience a lot of mental and emotional worries, which will contribute to them experiencing lower levels of psychological health. As discussed above, educators who experience higher levels of stress due to a lack of rewards and participation could also be more prone to suffer lower levels of psychological health. Perceiving themselves as not receiving the deserved financial or promotional rewards may cause educators to question their self-worth or contribution to the organisation, which could eventually have a negative psychological impact on them. Educators who perceive themselves as lacking support from and communication with managers and colleagues, may perceive themselves as having to shoulder their burdens without assistance, thus contributing to their poorer psychological health.

Role overload dealt with doing work under time pressure and repetitively, and also included emotionally upsetting and personally affecting situations (Van Wyk, 2006c). Educators who feel that they have too much work to do while working with emotionally troubled learners, might be prone to become too personally involved, and might therefore suffer emotional trauma and psychological ill health.

Task characteristics could also be used to predict psychological health. Task characteristics had to do with variety in the job, the use of personal skills and abilities, opportunities for growth and learning, achievement, independence, and planning (Van Wyk, 2006c). Educators who feel that they have the opportunity to do a variety of tasks and experience opportunities to grow, will also be prone to develop their emotional defence mechanisms more extensively and could thus experience lower levels of psychological ill health.

The interaction between educators' experiences of depersonalisation and their levels of optimism proved a significant predictor of psychological health. Schaufeli (2003) argued that people who experience depersonalisation are no longer willing to perform, because of an increased intolerance of any effort, thus experiencing mental distancing - or psychological withdrawal - from the task. Montgomery, Mostert and

Jackson (2005) found that depersonalisation was statistically-significantly related to psychological health. The current findings therefore suggest that optimism is an important moderator in relation to burnout (as indicated by depersonalisation) and psychological health. It may be hypothesized that having a high level of optimism may buffer the effects of depersonalisation in negatively contributing to educators' experience of psychological health.

Interestingly, the same variables predicting psychological and physical health in relation to burnout, were found to be significant predictors of health in relation to engagement. Again, the variables of home language, levels of optimism, role overload and task characteristics were significant predictors of educators' physical health. Home language, levels of optimism, rewards and participation and task characteristics predicted educators' psychological health. Additionally, the interaction of educators' experiences of vigour and optimism was also predictive of physical health. Also, educators' levels of vigour made a direct contribution to their psychological health, as well as the interaction of their levels of optimism and their perceived stress due to support and communication. This could indicate that educators who experience higher levels of energy might be prone to experiencing good psychological health. Jackson (2004) found contradicting results, but Moore et al. (2006) indicated that individuals who exert more energy in their jobs will be prone to experiencing lower levels of depression and higher levels of mental agility, which could contribute to better psychological health.

Neither burnout nor engagement made any direct contribution to physical health, and the effects thereof were only reflected in the moderating effect of optimism (for Professional Efficacy and Vigour, respectively). In terms of educators' psychological health, burnout again did not make any direct contribution, and only by means of the interaction of Depersonalisation with Optimism. Vigour, though, had a direct effect on educators' psychological health. This makes sense, as educators who experience high levels of energy and mental resilience while working, and persist even in the face of difficulties, could experience higher levels of psychological health.

Educators' home language was a constant predictor of educator well-being. African-language-speaking educators experienced significantly better physical and psychological health than their Afrikaans-speaking counterparts. This might be due to the fact that educators who speak an African language might be more prone to enjoying promotions, due to the affirmative action policies. This confirms Moore et al.'s (2006) comments, that those who experience less stress would be prone to enjoy better well-being, be it physical or psychological. The same finding was made for English-speaking educators, indicating that they experience

lower psychological health than their African-language-speaking counterparts. They might feel that they are more involved with the education department due to their language similarities, while the affirmative action policies cater for historically disadvantaged South Africans, which excludes most English-language speakers.

It is also interesting to note that educators' home language was a stronger predictor of their psychological health than their physical health. This could be interpreted that, although educators may not be aware of any impact of language differences on their physical health, the impact of cultural and language diversity may be more strongly related to their emotional health and well-being. In newly created education departments where individuals are forced to work together regardless of language and cultural differences, they may have to adapt physically. This finding also seems to suggest that their psychological health is either directly or indirectly suffering in a situation where cultural and language dissimilarity may act as an additional work stressor.

RECOMMENDATIONS

Based on this study, optimism, burnout, engagement and job stress should be used to predict the health of educators in the Goldfield region of the Free State province. It should not just be used as predictors, but also as a guideline as to where educators could be assisted to promote better physical and psychological health. Special attention should be paid to the variables of home language, levels of optimism, role overload and task characteristics, which were found to be significant predictors of physical health. It is thus recommended that educators' levels of optimism should be monitored, as lower levels of optimism could negatively influence educators' physical health. The amount of work should also be monitored, as educators who put in long hours to finish their work will experience higher levels of fatigue, which could contribute to poor physical health. Educators should also enjoy development opportunities and have more variety in their jobs, as it could lead to better physical health.

Home language, levels of optimism, rewards and participation and task characteristics predicted educators' psychological health. The importance of monitoring optimism levels is again emphasised, as higher levels of optimism could also contribute to better psychological health. The reward system, both tangible (i.e. financial) and psychological (as may be indicated by promotions), should be re-evaluated because it could contribute to educators experiencing better psychological health. It is recommended that the Education department should give educators more opportunities to be involved in the decision-making process, as their involvement could improve their psychological health. Training and development, giving educators more

variety in their jobs, and monitoring educators' preference for independent work could be beneficial to their psychological health. It is also recommended that interventions should be put in place to ensure better evaluation of training needs and create greater variety in educators' jobs.

Language differences should be monitored, as especially the Afrikaans-speaking educators are experiencing significantly more stress than their African-language-speaking counterparts. The monitoring of the differential effects of language differences in terms of health could contribute to educators experiencing better physical and psychological health.

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BI 146

CHAPTER 6

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

Chapter 6 includes conclusions reached, based on the findings of the different empirical studies. In addition, the limitations of the research are discussed. Furthermore, recommendations are made for the Education Department of the Free State province and in terms of future-related research.

6.1 CONCLUSIONS

The conclusions are reached as they relate to the objectives set for this research, and can be summarised as follows:

- The first objective was to determine if a work-wellness model could be developed for educators in the Goldfield region of the Northern Free State province, consisting of all the dimensions of burnout (emotional exhaustion, depersonalisation and professional efficacy) and engagement (vigour, dedication and absorption), and proven valid and reliable for all language groups.

Structural-equation modelling confirmed a three-factor model of burnout, consisting of Exhaustion, Depersonalisation and Professional Efficacy. All three factors showed acceptable internal consistencies for the three different language groups. A three-factor model of engagement was also confirmed, consisting of Vigour, Dedication and Absorption. A second-order factor analysis was carried out to define the super-order factors that describe the wellness of educators in the Goldfield region of the Northern Free State Province. It was indicated that work wellness for educators can be conceptualised as consisting of all the dimensions of burnout (emotional exhaustion, depersonalisation and professional efficacy) and engagement (vigour, dedication and absorption).

This finding contributes to the field of Industrial Psychology, as the Maslach Burnout Inventory-General Survey or MBI-GS (Maslach & Jackson, 1986), which consists of Exhaustion, Depersonalization and Professional Efficacy, can be used to determine burnout among educators in the Goldfield region of the Free State province. This finding further contributes to the field of Industrial Psychology by indicating that the antipode of burnout, namely engagement, as operationalised by the Utrecht Work Engagement Scale (Schaufeli, Salanova, González-Romá, & Bakker, 2002), which consists of Vigour, Dedication and Absorption, can be used to describe work engagement among educators in the Goldfield region of the Free State Province. These findings, in combination with those of Jackson (2004), who came to a similar

conclusion about educators in the North-West Province of South Africa, open the door for the validation of the MBI-GS and UWES among educators in other South African provinces. The use of these instruments looks promising, but further validation and studies into construct equivalence among South Africa's culturally and linguistically-diverse population of educators would be warranted.

- The second objective was to determine if significant differences regarding burnout and engagement levels exist among educators in the Goldfield region of the Northern Free State province who are different from each other in terms of gender, marital status, home languages, age and years work experience.

Initial results indicated that female educators experience more exhaustion than their male counterparts, and that African-language-speaking educators show less exhaustion than their Afrikaans-speaking counterparts. However, when all biographical categories were considered together, none were associated with exhaustion.

Age proved to be a significant predictor of the depersonalisation component of burnout, with older educators experiencing significantly less depersonalisation than younger educators. Jackson (2004) found similar results amongst educators in the North West Province. Although correlations indicated a relationship between feelings of depersonalisation and marital status, the latter variable had no effect when gender, language and age were entered before it in the regression analysis. It was also indicated that depersonalisation increases with years of work experience, suggesting that the longer an educator stays in his/ her chosen profession, the more likely it become that he/ she will experience depersonalisation.

Language showed to be an interesting predictor of professional efficacy, where Afrikaans-speaking participants experienced significantly more professional efficacy than those educators who are English-speaking or speak an African language. Older educators also experience more feelings of achievement. When compared to single individuals, those who are married or divorced also experience less professional efficacy. People who have been through divorce generally show lower mental/psychological health (Acker, 2003), and this finding is seemingly reflected here with the finding that single educators show greater professional efficacy when compared to divorced educators.

Female educators experience significantly less vigour than their male counterparts. Storm and Rothmann (2003) also found similar results in their study among police officers.

Educators' age proved significantly related to their dedication, with the older educators experiencing more dedication than the younger educators. Single educators also experienced more feelings of dedication towards their jobs than married educators.

Older educators (between the ages of 37 and 46) experience significantly less absorption than their younger counterparts (between the ages of 22 and 30). Having more than 13 years of work experience also indicated greater absorption than having less than 7 years of work experience.

These results have special importance for the field of Industrial Psychology as well as the Education Department. By identifying various biographical variables that can be used to describe burnout and engagement, one could start identifying methods of reducing burnout, as well as implementing various strategies to enforce engagement, based on the biographical variables identified in this study.

- The third objective was to determine if a valid and reliable measure could be developed to indicate factors perceived as stressful by educators in the Goldfield region of the Free State province.

A questionnaire consisting of 48 items, based on existing literature (Coetzee & Rothmann, 2006; Coetzer, 2004; Jackson, 2004; Van Zyl, 2003) was developed and administered in cross-sectional survey fashion. During analysis, 4 items were discarded due to non-loading, and a further 8 items were discarded due to significant secondary loadings. Five factors were extracted, explaining 42,22% of the total variance in the data. These five factors showed acceptable alpha coefficients. The five factors extracted were labelled Support and Communication, Rewards and Participation, Job Insecurity, Role Overload and Task Characteristics.

The first factor that was extracted was labelled Support and Communication. This factor dealt primarily with perceived social support for the individual educator from his/ her colleagues and supervisor, and communication from the organisation, which focused on clearly defined roles and responsibilities. The second factor had items related mainly to rewards, but also to participation, which may be seen as an intrinsic reward factor, thus the factor was labelled Rewards and Participation. The third factor had to do with feelings of security related to actually working, and working in the same job and at the same level over the next year, and was labelled Job Insecurity. The fourth factor was labelled Role Overload, and loaded items that dealt with doing repetitive and pressurised work. It also referred to attending to many things at the same time, indicating cognitive overload. A large component of the factor also dealt with dealing with difficult learners and emotionally upsetting and personally affecting situations. The fifth and last factor, labelled Task Characteristics, loaded items that had to do with variety in the job, the use of

personal skills and abilities, opportunities for growth and learning, achievement, independence and planning.

Additionally, the role of biographical factors was again investigated in terms of possible differential effects in terms of educators' stress experiences. Educators' language was found to be a significant predictor of stress where educators who speak an African language experience less stress due to Rewards and Participation than those educators who speak Afrikaans or English. English-speaking educators experience less stress based on Support and Communication when compared to Afrikaans and African-language-speaking educators. English-speaking educators also experience significantly more stress regarding Role Overload than Afrikaans and African-language-speaking educators. Afrikaans-speaking educators experience significantly more stress due to Job Insecurity than English and African-language-speaking educators. Afrikaans-speaking educators experience less stress due to their Task Characteristics when compared to English and African-language-speaking educators.

Marital status also proved to be a significant discriminator in describing stress amongst educators. Educators who are engaged to be married experience less stress based on Support and Communication than divorced educators. Smith, Brice, Collins, Matthews and McNamara (2000) found contrary results in a UK study amongst general workers. They found that divorced workers experience less stress than those who are engaged or married, while locally, Motseke (2005) found that single educators experience significantly less stress than married educators.

The contribution to Industrial Psychology as a science in reaching this objective, lies in the fact that a questionnaire that describes stress among educators in the Goldfields region of the Free State province was developed and proven to be reliable. The investigation of biographical differences as potentially influencing educators' experiences of stress also highlights new avenues for possible intervention.

- The last objective was to determine if burnout, engagement and job stress could be used to predict the health of educators in the Goldfields region of the Free State province, whilst controlling for the possible moderating effect of optimism.

The Your Health questionnaire (Cartwright & Cooper, 2002) was used to describe the health of educators. This questionnaire consisted of two factors. The first factor was labelled Physical Health, which gives insight into physical symptoms that could be the outcome of stress. The second factor was labelled Psychological Health and describes symptoms of mental ill health that may be stress-induced. The *Life Orientation Test - Revised* or LOT-R (Scheier, Carver & Bridges, 1994) was used to measure optimism.

Results indicated that educators' physical and psychological health could be predicted by various stress factors, which includes Rewards and Participation, Support and Communication, Job Insecurity, Role Overload and Task Characteristics. It is interesting to note that none of the burnout factors made any direct contribution to educators' physical or psychological health. The Vigour factor of the engagement scale was the only direct predictor of educators' psychological health. Optimism also showed significant relationships with both physical and psychological health.

In investigating the effect of burnout, educators' home language, their experience of optimism, role overload and task characteristics were significant predictors of their physical health. The interaction between Professional Efficacy and Optimism also proved to be a significant predictor of physical health, which indicates that while optimism makes a direct contribution to physical health, it also has a moderating effect on the professional efficacy aspect of burnout.

Educators' home language, their levels of optimism, experiences of rewards and participation, support and communication, job insecurity, role overload and task characteristics proved to be significant predictors of psychological health. The interaction term of Depersonalisation and Optimism also proved to be a significant predictor of psychological health. Thus, even though optimism makes a direct contribution to psychological health, it also has a moderating effect on the depersonalisation aspect of burnout.

In investigating the effects of engagement, educators' home language, experiences of optimism, role overload and task characteristics, as well as the interaction between Vigour and Optimism, proved to be significant predictors of physical health. Thus optimism makes a direct contribution to physical health, but also moderates the contribution of the Vigour aspect of engagement to physical health.

Furthermore, educators' home language, optimism, vigour, rewards and participation, support and communication, role overload, and task characteristics, as well as the interaction term of Support and Communication and Optimism proved to be significant predictors of psychological health. Thus, optimism makes a direct contribution to psychological health, and was shown to have a moderating influence on the contribution of the support and communication aspect of job stress to psychological health.

Results further indicated that the physical and psychological health of African-language-speaking educators is significantly better than those educators who speak Afrikaans. English-speaking educators also experience significantly lower psychological health when compared to African-language-speaking educators.

The value of these results is vital to the field of Industrial Psychology. It accentuates the importance of optimism among educators as it relates to both their physical and psychological health. The importance of different stress factors are also emphasised in this study as it clearly indicates that various stress factors could be used to determine educators' well-being. This study furthermore stresses the importance of evaluating various biographical variables as it could also determine overall well-being. Given South Africa's politically divided past, little research has focussed on the differential effects of organisational stress on different language, and, by implication, cultural groups. This study confirms the importance of language differences and language barriers among educators as language continually predicted physical and psychological health among educators.

6.2. LIMITATIONS

The following limitations of the research should be taken into account:

- The Goldfields district is an area that is mostly supported by the gold mines. When the price of gold weakens, retrenchments occur. Seeing that many teachers' spouses may be employed in the mining environment, this could be an important contextual variable indicating high stress levels that were not taken into account in this study.

- The current sample is also limited to a specific geographical area and the interpretation of results should be done with caution. Results should not necessarily be generalised to other teachers in other parts of the Free State Province or South Africa. However, results are similar to the only other province-wide study that was done by Jackson (2004) among educators in the North-West Province. Therefore some generalisations may be made.

- Another limitation of this study was that it relied solely on self-report measures. According to Schaufeli, Enzmann and Girault (1993), the exclusive use of self-report measures in validation studies increases the likelihood that at least part of the shared variances between measures may be attributed to method variance. However, a review of self-report measures regarding perceptions and affective reactions to jobs and work environment revealed little evidence of common method variance (Spector, 1987).

- The variance explained by the biographical variables proved to be rather small. However, the utility of this exercise is heightened by the fact that a variable such as gender and home language are very unlikely to change, and thus present very robust predictors. Also, the categories used for age and

tenure were rather broad (ranging from 8 to 9 years for age and 7 to 20 or more years for tenure), which makes pinpointing problematic time periods easier.

6.3 RECOMMENDATIONS

6.3.1 Recommendations for the Free State Education Department

The following recommendations, based on the findings, should be considered and implemented:

- It is recommended that the MBI-GS be used to assess burnout among educators in the Goldfield region of the Free State Province. However, items 2 and 19 may be omitted when assessing burnout with the MBI-GS in a multi-lingual sample of educators, especially when first-language speakers of English or any African language are present.

- Furthermore, it is also recommended that where the UWES is used to assess engagement among educators, items 10, 11 and 12 be omitted when administering this questionnaire to a multi-lingual sample.

- It is also recommended that biographical variables that can contribute to burnout, work engagement and stress be managed to promote psychological well-being among educators. The most important biographical variable that constantly predicted burnout, engagement and stress, was language. It is recommended that communication between the Department of Education, principals, supervisors and important role players in the education sector be carefully monitored and, where possible, should ideally be translated to the mother tongue of the main languages of educators in the Goldfield region of the Northern Free State Province. Furthermore, training interventions should be initiated among educators of all language groups and, where possible, in their mother tongue. It is also recommended that educators' marital status be monitored. Especially school principals, who are close to the educators, should take notice of any changes in educators' marital status, as this could contribute to high levels of stress. Supporting teachers who might be going through a divorce or having trouble in their marriage should be considered. It is also very important to evaluate the stress levels of different genders regularly, with specific focus on the female gender. The Department of Education should consider interventions where especially female educators could get assistance or guidance in overcoming difficult situations. Educators' age should be monitored, as their age could impact their involvement in schools and their learners. Interventions should be considered where younger educators are assisted in coping with the high demands of learners, and older educators are assisted in coping with all the new changes that they need to adapt to in retirement.

- Language barriers should be kept in mind to promote understanding of policies and programmes amongst educators with diverse languages. Language differences should also be monitored, as especially the Afrikaans-speaking educators seem to experience significantly more stress than their African-language-speaking counterparts. It is recommended that the Department of Education should implement strategies where stress factors like support and communication, job insecurity, and especially rewards and participation, be applied to all language groups, not just the designated previously-disadvantaged group.

- Optimism, burnout, engagement and job stress should be used to predict the health of educators in the Goldfields region of the Free State Province. It should not just be used as predictors, but also as a guideline as to where educators could be assisted to promote better physical and psychological health. Special attention should be paid to critical stress factors like the support they receive from the Education Department and the amount of work that they need to do. They need to receive more opportunities to learn and develop themselves, as this could contribute to their overall well-being. It is recommended that the school and its governing body take a leading role in educators' social support. The Department of Education and/ or the schools could consider some kind of induction program for educators where they can receive a full overview of what their roles and responsibilities are.

- A review of the reward structure in the education sector might just proof to be beneficial for the educators. Educators should also be afforded a greater opportunity to participate in the decision-making process. They are directly involved with the learners, and might just have some useful information to add to important issues.

- Another very important factor to consider should be educators' job contracts. It is recommended that educators' contracts should be reviewed, even if they are temporary, as this could contribute to high levels of stress if they are unsure of what the future has in store for them. Considering the need for good educators, permanent appointments could aid in retaining educators who experience job insecurity.

- It is also recommended that the amount of work that educators are doing be monitored by there supervisors. This is important as many educators are experiencing stress due to having too much work to do. Support structures, like counselling facilities where both educators and learners can go for assistance, should also be put in place. This is important, because when learners have the opportunity to get assistance from professional counsellors, it could take the strain off educators when dealing with emotionally upsetting situations.

- It is also recommended that educators are given the opportunity to develop themselves and have the opportunity to grow. Furthermore, it is recommended that educators are given the support and opportunity to use their personal skills and abilities, as well as having the opportunity to have more variety in their jobs.

- A regular evaluation of educators' optimism levels will be very advantageous. Higher levels of optimism have been proven to contribute to better well-being. Ensuring that educators are optimistic will therefore lead to better physical and emotional health among them.

6.3.2 Recommendations for future research

The following recommendations for future research are made based on the findings:

- First, the fact that burnout can be found within human-service professions, as indicated in this research and in the research of Naude (2003) and Storm (2002), may stimulate future burnout and ultimately work-wellness research in a wide range of occupations (Schutte, Toppinen, Kalimo & Schaufeli, 2000). Future research in South Africa needs to focus on the reliability, validity and especially the construct equivalence of the MBI-GS and the UWES for other occupational settings in South Africa. Research also needs to be conducted in other occupational groups that may serve as normative samples and as reference for relative burnout and work engagement levels of individuals in different occupations. Due to possible semantic differences, it is recommended that the MBI-GS and the UWES be translated into other languages used in South Africa. This will assist in the establishment of culturally-fair and unbiased measurements of burnout and work engagement

- Future studies should also focus on longitudinal designs where interferences in terms of cause and effect could be made regarding stressors, burnout, engagement, commitment and strain. Although this study found the MBI-GS to be reliable and confirmed the three-factor structure, additional research is needed to further determine the reliability and validity of other samples in South Africa.

- Future studies should focus more on the positive work-related attitudes and behaviours at work, and on positive constructs such as work engagement and its role in the work wellness of employees within different occupational settings. Research should also be conducted to evaluate the effectiveness of interventions to increase work wellness.

- The era of positivism introduced by Seligman and Csikszentmihalyi (2000) is still at a very early age, especially in South Africa, and especially among educators. Much more research should be considered among educators in the other provinces of South Africa.

- Future studies could also focus on the impact that learners have on educators, like learners' demographical information.

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