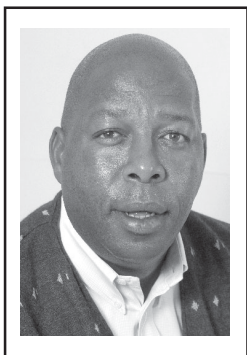
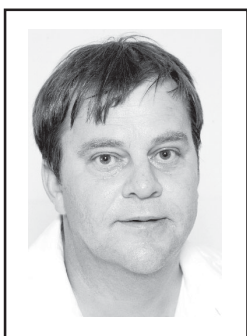


# Work-related well-being of educators in a district of the North-West Province

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## Abstract

*The objectives of this article were to assess the relationship between burnout, health, job demands and job resources in a sample of educators. A cross-sectional survey design was used. Stratified random samples ( $N = 266$ ) were taken of educators in an area of the North-West Province. The Maslach Burnout Inventory – General Survey, the Health subscale of the ASSET, and the Job Demand-Resources Scale were administered. The results showed that overload, a lack of growth opportunities, and a lack of control explained 35% of the variance in exhaustion. A lack of growth opportunities, job insecurity and a lack of control explained 23% of the variance in cynicism. Exhaustion explained 17% of the variance in physical ill-health, whereas exhaustion, cynicism and low professional efficacy explained 38% of the variance in psychological ill-health.*

**Key words:** Burnout; job demands; job resources; ill-health

## Introduction

Educator stress and burnout have increasingly received recognition as a widespread problem and global concern in recent years (Boyle, Borg, Falzon & Baglioni, 1995; Kyriacou, 2001).

Although up to a third of the educators surveyed in various studies have indicated that they regarded teaching as highly stressful, they show differences in their reactions to different stressors in the teaching profession (Milstein & Farkas, 1988). Research over the past two decades has shown that burnout is not only related to negative outcomes for the individual, including depression, a sense of failure, fatigue and loss of motivation; it also results in negative outcomes for the organisation, including absenteeism, turnover rates and lowered productivity (Schaufeli & Enzmann, 1998). These negative outcomes are also evident in the South African education system. Recent newspaper headlines have indicated that much needs to be done by the Department of Education to recruit new educators and to retain them, e.g. *Most SA teachers ready to quit* (*The Citizen*, 19 April 1999), *Many good teachers have quit in despair because of the OBE system* (*The Star*, 13 August 2001), *Profoundly sad so many teachers are quitting* (*The Citizen*, 25 July 2002) and *Stress takes big toll on teachers* (*Pretoria News*, 2 Dec. 2002). Therefore, it is necessary to investigate the burnout of educators in South Africa.

In the helping professions, burnout describes the condition of physical and emotional exhaustion, as well as the associated negative attitudes resulting from the intense interaction in working with people (Bakker, Schaufeli, Sixma & Bosveld, 2001; Maslach, 1986). Educator burnout is caused by high levels of prolonged stress related to inordinate time demands, inadequate collegial relationships, large classes, lack of resources, isolation, fear of violence, role ambiguity, limited promotional opportunities, lack of support and involvement in decision-making and student behavioural problems (Friedman, 1995). Difficult children, behavioural problems, shortages of equipment, too much paper work and demands on after-school time are major predictors of educator burnout. Furthermore, the overall classroom climate was found to be a major variable in educator burnout (Byrne, 1994). As the climate of the classroom deteriorates, educators may become exhausted and will develop negative attitudes towards their students and their jobs as a result. This will lead to a growing sense of failing to achieve their personal goals.

## Burnout

According to Schaufeli and Enzmann (1998) burnout can be defined as a persistent, negative, work-related state of mind (or syndrome) developing over time in so-called "normal" individuals, characterised by an array of physical, psychological and attitudinal symptoms, primarily exhaustion, and accompanied by distress, a sense of reduced effectiveness, decreased motivation and the development of dysfunctional personal and societal attitudes and behaviours at work.

According to Schaufeli, Leiter, Maslach and Jackson (1996), burnout comprises three dimensions, namely Exhaustion, Cynicism and Professional Efficacy. Exhaustion refers to the depletion or draining of emotional resources and feelings of being overextended. Cynicism, which refers to the interpersonal dimension of burnout, results in a negative, callous or excessively detached response to various aspects of the job. Professional efficacy refers to the self-evaluation dimension of burnout and is a feeling of competence, productivity and achievement at work.

Exhaustion is a necessary but not sufficient criterion for burnout (Maslach, Schaufeli & Leiter, 2001). The notion of exhaustion presupposes a prior state of high arousal or overload rather than one of low arousal or underload, which implies that burnout is not a response to tedious, boring or monotonous work. However, exhaustion fails to capture a critical aspect of the relationship people have with their work. Chronic exhaustion can cause people to distance themselves emotionally and cognitively from their work, thereby becoming less involved with or responsive to the needs of other people or the demands of the task. According to Maslach *et al.* (2001) distancing is such an immediate reaction to exhaustion that a strong relationship between exhaustion and cynicism is consistently found in burnout research. Furthermore, a work situation with chronic, overwhelming demands that contribute to exhaustion or cynicism is likely to erode

an individual's sense of accomplishment or effectiveness. In some situations the lack of efficacy seems to arise more clearly from a lack of relevant resources, whereas exhaustion and cynicism result from the presence of work overload and social conflict (Maslach *et al.*, 2001).

## The Job Demands-Resources Model of burnout

Various antecedents have been linked to burnout in empirical research (see Schaufeli & Enzmann, 1998). Furthermore it seems that every occupation has its own specific risk factors regarding burnout. For example, burnout of employees in call centres is primarily caused by dissonance between their genuine feelings and those that can be shown towards clients (Zapf, Vogt, Seifert, Mertini & Isic, 1999), whereas a combination of work overload and lack of autonomy seems the most important problem for production workers (De Jonge & Kompier, 1997). For medical practitioners, patient demands are the most important determinant of burnout (Bakker, Schaufeli, Sixma, Bosveld & Van Dierendonck, 2000), and interaction with learners is the most important determinant of burnout for educators (Van Horn, Schaufeli & Enzmann, 1999).

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

*Job resources* represent those physical, psychological, social or organisational aspects of the job that may be functional in achieving work goals, reducing job demands (with the associated physiological and psychological costs), and stimulating personal growth and development. Resources may be located at the level of the organisation (e.g. salary, career opportunities, job security), interpersonal and social relations (e.g. supervisor and co-worker support, team climate), the organisation of work (e.g. role clarity, participation in decision-making), and the level of the task (e.g. performance feedback, skill variety, task significance, task identity, autonomy). Job resources may play either an intrinsic motivational role (by fostering the employee's growth, learning and development), or they may play an extrinsic motivational role (by being instrumental in achieving work goals). In general, job demands and resources are negatively related, since job demands such as a high work pressure and emotionally demanding interactions with clients may preclude the mobilisation of job resources. Furthermore high job resources such as social support and feedback may reduce job demands.

Another assumption in the JD-R model is that working characteristics may evoke two psychologically different processes, namely an *energetic* process of wearing out in which high job demands exhaust the employee's energy, as well as a *motivational* process in which lacking resources preclude dealing effectively with job demands and foster mental withdrawal (Demerouti *et al.*, 2001).

- **Energetic process.** Mental fatigue is a response of the mind and body to the reduction in resources due to mental task execution. It warns of the increasing risk of performance failure. Under normal circumstances, people become tired of their everyday work activities, but their energy resources are sufficient to meet the task demands. However, when a person is working under high levels of (mental) workload and is already fatigued (e.g. at the end of a workday), extra energy to compensate fatigue has to be mobilised through mental effort in order to maintain task performance. The mobilisation of extra energy may result in acute fatigue. A subsequent return to physiological and emotional baseline levels is crucial.

Incomplete recovery from workload demands disrupts the energetic homeostasis, which in turn may lead to chronic effects on health and wellbeing. When incomplete recovery takes place, the effect of high workload demands can accumulate gradually, carrying over from one day to the next.

- Motivational process.** When organisations do not provide or reward employees with job resources, the long-term consequences are withdrawal from work, and reduced motivation and commitment. In such a situation, a reduction of motivation or withdrawal from work can be an important self-protection mechanism that may prevent the future frustration as a result of not obtaining work-related goals. When the external environment lacks resources, individuals cannot reduce the potentially negative influence of high job demands and they cannot achieve their work goals. Additionally, they cannot develop themselves further in their job and organisation. The conservation of resources theory predicts that in such a situation, employees will experience a loss of resources or failure to gain an investment (Hobfoll, 1989; Hobfoll & Freedy, 1993). Moreover, in order to reduce this discomfort or job stress, employees will attempt to minimise losses. With the intention of achieving equity without having further negative, personal consequences they will most probably reduce their discretionary inputs.

The effects of job demands and job resources are illustrated in Figure 1. Figure 1 shows that jobs characterised by high demands and low resources are stressful. Furthermore jobs characterised by both high demands and resources are categorised as challenging.

Demerouti *et al.* (2001) confirmed that job demands (e.g. physical demands, time pressure

**Figure 1: The effects of job demands and job resources**

		Low	<b>Job Demands</b>	High
<b>Job Resources</b>	High	Easy Job	Challenging Job	
	Low	Boring Job	Stressful Job	

and shift work) are associated with exhaustion, whereas lacking job resources (e.g. feedback, participation in decision-making and supervisory support) are associated with disengagement (cynicism). However no studies utilising the Job Demands-Resources model have yet been conducted for educators in South Africa.

## Aim of the article

The aim of this article was to assess the relationship between job demands and job resources, burnout and ill-health of educators in a district of the North-West Province in South Africa.

## Method

### Research design

The study on which this article is based, formed part of a larger study regarding burnout and work engagement of educators in the North-West Province. A cross-sectional survey design was used, whereby a sample was drawn from a population at a particular time.

## Participants

The sample includes the 266 educators in the North-West Province in South Africa who had completed a questionnaire by the end of May 2003. Most of the participants in this study were teaching in primary schools (63.42%) and secondary schools (29.18%). A total of 51.37% of the sample indicated Afrikaans as home language, whereas English and Setswana represented 23.14% and 10.98% of the sample respectively. The mean age and experience (in years) of the participants were 41.19 and 8.37 respectively. On a 5-point scale, the mean score for intention to quit was 3.36, and the frequency of thinking about quitting was 3.47. Other characteristics of the sample are given in Table 1.

**Table 1: Characteristics of the participants**

Characteristic	Category	%
Gender	Male	27.97
	Female	72.03
Language	Afrikaans	51.37
	English	23.14
	Setswana	10.98
	Other	14.51
Qualification	Grade 12 + Education Diploma	22.32
	Grade 12 + Higher Diploma + Degree	52.68
	Grade 12 + Higher Diploma + Honours Degree	22.32
	Grade 12 + Higher Diploma + Master's Degree	2.68
Type of school	Primary	63.42
	Intermediate	3.89
	Combined	3.50
	Secondary	29.18
Job level	Teacher	78.69
	Head of Department	14.75
	Deputy Principal	4.51
	Principal (Headmaster)	2.05
Illness – last 6 months	Yes	22.66
	No	77.34

Table 1 shows that 78.69% of the sample are post level 1 educators, with 14.75% indicating that they are Heads of Departments. Only 25% of the sample hold a qualification higher than a diploma or degree.

## Measuring battery

Three measuring instruments were used in this study, namely the Maslach Burnout Inventory – General Survey, The Job Demands-Resources Scale and a Health Questionnaire.

The Maslach Burnout Inventory – General Survey (MBI-GS) (Schaufeli *et al.*, 1996) was used to measure burnout. The MBI-GS consists of 16 items, which are divided into 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"). All items are scored on a seven-point frequency rating scale ranging from 0 (never) to 6 (daily). The internal consistencies (Cronbach alpha

coefficients) reported by Schaufeli *et al.* (1996) varied from 0.87 to 0.89 for Exhaustion; 0.73 to 0.84 for Cynicism and 0.76 to 0.84 for Professional Efficacy. Test-retest reliabilities after one year were 0.65 (Exhaustion); 0.60 (Cynicism) and 0.67 (Professional Efficacy) (Schaufeli *et al.*, 1996). Storm and Rothmann (2003) obtained the following alpha coefficients for the MBI-GS in South Africa: Exhaustion: 0.88; Cynicism: 0.79; Professional Efficacy: 0.78.

The Job Demands-Resources Scale (JDRS) was developed by the authors to measure job demands and job resources for educators. The scale was developed based on a literature review as well as interviews with educators in the North-West Province. Items were developed and checked for face validity. The JDRS consists of 48 items. The questions are rated on a four-point scale ranging from 1 (*never*) to 4 (*always*). The dimensions of the JDRS include pace and amount of work, mental load, emotional load, variety in work, opportunities to learn, independence in work, relationships with colleagues, relationship with immediate supervisor, ambiguities regarding work, information, communications, participation, contact possibilities, uncertainty about the future, remuneration and career possibilities.

The Health subscales of ASSET (which refers to An Organizational Stress Screening Evaluation Tool) were developed by Cartwright and Cooper (2002) to assess the respondents' level of health. The Health subscales consist of 19 items arranged on two subscales: Physical Health and Psychological Wellbeing. All items on the Physical health subscale relate to physical symptoms of stress. The role of this subscale is to provide 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. This subscale provides insight into physical health, not an in-depth clinical diagnosis. 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 (GHQ-12; Goldberg & Williams, 1988).

## Statistical analysis

The statistical analysis was carried out with the help of the SAS program (SAS Institute, 2000) and the Amos program (Arbuckle, 1999). Cronbach alpha coefficients were used to assess the internal consistency of the measuring instruments (Clark & Watson, 1995). Exploratory factor analyses were conducted on the JDRS. Firstly, a simple principal components analysis was conducted on the JDRS. The eigenvalues and scree plot were studied to determine the number of factors that could be extracted. Secondly, a principal component analysis with a direct oblimin rotation was conducted if factors were related ( $r > 0.30$ ). Thirdly, a principal component analysis with a varimax rotation was used if the obtained factors were not related (Tabachnick & Fidell, 2001). Descriptive statistics (e.g. means and standard deviations) and inferential statistics were used to analyse the data.

In order to test the factorial validity of the MBI-GS and the Health Subscales of the MBI-GS, structural equation modelling (SEM) methods were used with the maximum likelihood method of the AMOS program (Arbuckle, 1997). The  $\chi^2$  statistic and several other goodness-of-fit indices summarise the degree of correspondence between the implied and observed covariance matrices. According to Byrne (2001),  $\chi^2$  should not be used as the sole indicator of model fit in the behavioural sciences. Therefore, the following fit indices were used in this study: a) The  $\chi^2$ /degrees of freedom ratio (CMIN/DF), which should be lower than 5; b) The Goodness of Fit Index (GFI) and Adjusted Goodness-of-Fit Index (AGFI), which should be higher than 0.90; c) The Normed Fit Index (NFI), which should be higher than 0.90; d) The Comparative Fit Index (CFI), which should be higher than 0.90; e) The Tucker-Lewis Index (TLI), which should be higher than 0.90, and f) The Root Mean Square Error of Approximation (RMSEA), which should be lower than 0.08.



Standard multiple regression analysis was used to determine the proportion of the total variance in burnout as explained by job demands and job resources. Effect sizes for each dimension (which indicate the practical significance of findings) were estimated using  $R^2$ . The following formula (Steyn, 1999) was used:

$$f^2 = \frac{R^2}{1 - R^2}$$

A cut-off point of  $f^2 = 0.35$  (large effect) was set (Steyn, 1999).

## Ethics

Considerations regarding ethical issues were addressed by means of active inclusion and consultation with the relevant stakeholders at the Department of Education (North-West Province), as well as with the participants in the study. The objectives of the study were explained to, and written consent obtained from the participants at their place of work where the data collection also took place. Confidentiality and anonymity were assured.

## Results

### Construct validity of the measuring instruments

The hypothesised three-factor model consisting of all 16 items of the MBI-GS was tested. The results revealed a relatively poor overall fit of the originally hypothesised MBI model. To pinpoint possible areas of misfit, standardised residual values were examined (Jöreskog & Sörbom, 1993). Considering the high standardised residuals of items 13 and 14 as well as low regression weights, it was decided to re-specify the model with these items deleted. The removal of item 13 is justified based on the ambivalent nature thereof (Schutte, Toppinnen, Kalimo & Schaufeli, 2000; Storm & Rothmann, 2003). Regarding item 14, misunderstanding of the word "cynical" might have caused problems. Although the  $\chi^2$  (123.43) was statistically significant ( $p < 0.01$ ), the other statistics showed acceptable fit of the model to the data. A  $\chi^2/df$  ratio of 1.69 was found which is smaller than the cut-off point of 5, while the GFI (0.94), AGFI (0.91), NFI (0.90), TLI (0.95) and CFI (0.96) were all higher than 0.90, and the RMSEA (0.05) lower than 0.08.

The hypothesised model of the Health Questionnaire (13 items) consisted of two factors, namely Physical Health and Psychological Health. The fit of the hypothesised model of the Health Questionnaire was acceptable. Although the  $\chi^2$  (95.98) was statistically significant ( $p < 0.01$ ), the other statistics showed acceptable fit of the model to the data. The  $\chi^2/df$  ratio (1.55) was smaller than 5, whereas the GFI (0.95), AGFI (0.92), NFI (0.93), TLI (0.97) and CFI (0.97) were all higher than 0.90, and the RMSEA (0.05) lower than 0.08.

A simple principal components analysis was conducted on the JDERS. Analysis of the eigenvalues ( $> 1$ ) and scree plot indicated that seven factors could be extracted. The results of the exploratory factor analysis of the JDERS items are shown in Table 2. Loadings of variables on factors, communalities and per cent of variance and covariance are shown. Variables are ordered and grouped by size of loading to facilitate interpretation. Zeros represent loadings lower than 0.40. Labels for each factor are suggested in a footnote.

**Table 2: Factor loadings, communalities ( $h^2$ ), percentage variance and covariance for principal component extraction and varimax rotation on JDRS items**

<b>Item</b>	<b>F<sub>1</sub></b>	<b>F<sub>2</sub></b>	<b>F<sub>3</sub></b>	<b>F<sub>4</sub></b>	<b>F<sub>5</sub></b>	<b>F<sub>6</sub></b>	<b>F<sub>7</sub></b>	<b><math>h^2</math></b>
Do you receive sufficient information on the results of your work?	<b>0.77</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.64
Do you receive sufficient information on the purpose of your work?	<b>0.72</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.60
Does your direct supervisor inform you about how well you are doing?	<b>0.69</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.55
Do you know exactly what your supervisor thinks of your performance?	<b>0.64</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.44
Are you kept adequately up-to-date about issues in the Department?	<b>0.57</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.40
In your work, do you feel appreciated by your supervisor?	<b>0.56</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.48
Do you get on well with your supervisor?	<b>0.48</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.50
Do you know exactly what other people expect of you in your work?	<b>0.45</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.26
Can you discuss work problems with your direct supervisor?	<b>0.44</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.51
Can you count on your supervisor when you come across difficulties?	<b>0.43</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.39
Do you know exactly for what you are responsible and what not?	<b>0.43</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.22
Can you participate in decisions about the nature of your work?	<b>0.42</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.33
Does your job offer you the possibility of independent thought?	0.00	<b>0.66</b>	0.00	0.00	0.00	0.00	0.00	0.53
Do you have freedom in carrying out your work activities?	0.00	<b>0.60</b>	0.00	0.00	0.00	0.00	0.00	0.52
Does your work give you the feeling that you can achieve something?	0.00	<b>0.60</b>	0.00	0.00	0.00	0.00	0.00	0.51
Do you have any influence in the planning of your work activities?	0.00	<b>0.55</b>	0.00	0.00	0.00	0.00	0.00	0.40
Does your work make sufficient demands on all your skills?	0.00	<b>0.45</b>	0.00	0.00	0.00	0.00	0.00	0.28
Does your job offer you opportunities for personal growth?	0.00	<b>0.44</b>	0.00	0.00	0.00	0.00	0.00	0.31
Do you have enough variety in your work?	0.00	<b>0.42</b>	0.00	0.00	0.00	0.00	0.00	0.27
Do you work under time pressure?	0.00	0.00	<b>0.73</b>	0.00	0.00	0.00	0.00	0.57
Do you have to be attentive to many things at the same time?	0.00	0.00	<b>0.60</b>	0.00	0.00	0.00	0.00	0.37
Do you have too much work to do?	0.00	0.00	<b>0.59</b>	0.00	0.00	0.00	0.00	0.45
Do you have to remember many things in your work?	0.00	0.00	<b>0.54</b>	0.00	0.00	0.00	0.00	0.34
Are you confronted in your work with things that affect you personally?	0.00	0.00	<b>0.48</b>	0.00	0.00	0.00	0.00	0.28
Does your work put you in emotionally upsetting situations?	0.00	0.00	<b>0.47</b>	0.00	0.00	0.00	0.00	0.33
Do you have contact with difficult children in your work?	0.00	0.00	<b>0.39</b>	0.00	0.00	0.00	0.00	0.21
Do you need to be more secure that you will keep your job next year?	0.00	0.00	0.00	<b>0.91</b>	0.00	0.00	0.00	0.85



**Table 2: Factor loadings, communalities (h<sup>2</sup>), percentage variance and covariance for principal component extraction and varimax rotation on JDRS items (continued)**

Do you need to be more secure that you will still be working in one year?	0.00	0.00	0.00	<b>0.89</b>	0.00	0.00	0.00	0.74
Do you need to be more secure that you will keep your level next year?	0.00	0.00	0.00	<b>0.81</b>	0.00	0.00	0.00	0.67
If necessary, can you ask your colleagues for help?	0.00	0.00	0.00	0.00	<b>0.68</b>	0.00	0.00	0.58
Can you count on your colleagues when you come across difficulties?	0.00	0.00	0.00	0.00	<b>0.61</b>	0.00	0.00	0.49
Do you get on well with your colleagues?	0.00	0.00	0.00	0.00	<b>0.48</b>	0.00	0.00	0.42
Does your job give you the opportunity to be promoted?	0.00	0.00	0.00	0.00	0.00	<b>0.55</b>	0.00	0.42
Is it clear whom you should address within the Department?	0.00	0.00	0.00	0.00	0.00	<b>0.55</b>	0.00	0.43
Do you have a direct influence on your school's decisions?	0.00	0.00	0.00	0.00	0.00	<b>0.51</b>	0.00	0.40
Is the Department's decision-making process clear to you?	0.00	0.00	0.00	0.00	0.00	<b>0.47</b>	0.00	0.45
Do you have contact with colleagues as part of your work?	0.00	0.00	0.00	0.00	0.00	<b>0.42</b>	0.00	0.40
Can you live comfortably on your pay?	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.78</b>	0.63
Do you think you are paid enough for the work that you do?	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.69</b>	0.53
Does your job offer you the possibility to progress financially?	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.64</b>	0.55
Do you think that the Department pays good salaries?	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.52</b>	0.30
Squared multiple correlation (SMC)	0.85	0.80	0.81	0.91	0.75	0.71	0.79	
Proportion variance	0.12	0.08	0.07	0.06	0.06	0.06	0.06	
Proportion co-variance	0.3	0.16	0.13	0.12	0.11	0.11	0.11	

F<sub>1</sub> Organisational Support F<sub>2</sub> Growth Opportunities F<sub>3</sub> Overload F<sub>4</sub> Job Insecurity F<sub>5</sub> Relationship with Colleagues F<sub>6</sub> Control F<sub>7</sub> Rewards

Inspection of Table 2 shows that 43 of the 48 items loaded on the seven factors. The factors are defined as follows: a) Organisational Support refers to the relationship with the supervisor, ambiguities regarding work, information, communication, participation and contact possibilities. b) Growth Opportunities refer to variety in work, opportunities to learn and independence in work. c) Overload refers to the pace and amount of work, mental load and emotional load. d) Job Insecurity refers to uncertainty about the future. e) Relationship with Colleagues refers to the availability of colleagues to help, whether they could be counted on and whether the participant gets on well with them. f) Control refers to communication, participation and contact possibilities. g) Rewards refer to whether the participant can live comfortably on his or her pay, whether it is regarded as sufficient and whether the salary enables employees to progress financially.

## Descriptive statistics and correlations

Table 3 shows the descriptive statistics, Cronbach alpha coefficients and correlations of the MBI-GS, the Health Questionnaire and the JDRS.

**Table 3: Descriptive statistics, alpha coefficients and correlations of the subscales of the measuring instruments**

Test and items	Mean	SD	a	1	2	3	4	5	6	7	8	9	10	11
Exhaustion	14.86	7.16	0.81	-	-	-	-	-	-	-	-	-	-	-
Cynicism	5.74	4.40	0.71	0.54 <sup>++</sup>	-	-	-	-	-	-	-	-	-	-
Professional efficacy	29.07	5.53	0.76	-0.21 <sup>*</sup>	-0.32 <sup>++</sup>	-	-	-	-	-	-	-	-	-
Physical III-health	15.11	4.21	0.78	0.40 <sup>++</sup>	0.30 <sup>++</sup>	-0.12	-	-	-	-	-	-	-	-
Psychological III-health	16.06	4.86	0.88	0.56 <sup>++</sup>	0.49 <sup>++</sup>	-0.30 <sup>++</sup>	0.59 <sup>++</sup>	-	-	-	-	-	-	-
Organisational Support	36.10	6.80	0.88	-0.19 <sup>*</sup>	-0.17 <sup>*</sup>	0.29 <sup>*</sup>	-0.23 <sup>*</sup>	-0.16 <sup>*</sup>	-	-	-	-	-	-
Growth Opportunities	20.63	4.15	0.80	-0.33 <sup>++</sup>	-0.43 <sup>++</sup>	0.43 <sup>++</sup>	-0.21 <sup>*</sup>	-0.28 <sup>*</sup>	0.49 <sup>++</sup>	-	-	-	-	-
Overload	22.58	3.98	0.75	0.50 <sup>++</sup>	0.37 <sup>++</sup>	-0.03	0.36 <sup>++</sup>	0.41 <sup>++</sup>	-0.07	-0.10	-	-	-	-
Job Insecurity	9.00	2.86	0.90	0.08	0.09	0.04	0.05	0.05	0.07	0.07	0.09	-	-	-
Social Support	10.15	1.81	0.76	-0.15	-0.11	0.22 <sup>*</sup>	-0.16 <sup>*</sup>	-0.18 <sup>*</sup>	0.51 <sup>++</sup>	0.36 <sup>++</sup>	-0.10	0.08	-	-
Control	9.10	2.68	0.71	-0.35 <sup>++</sup>	-0.31 <sup>++</sup>	0.23 <sup>*</sup>	-0.19 <sup>*</sup>	-0.28 <sup>*</sup>	0.39 <sup>++</sup>	0.40 <sup>++</sup>	-0.24 <sup>*</sup>	0.02	0.14	-
Rewards	5.94	2.37	0.78	-0.18 <sup>*</sup>	-0.18 <sup>*</sup>	0.05	-0.16 <sup>*</sup>	-0.09	0.08	0.22 <sup>*</sup>	-0.15	0.07	-0.08	0.37 <sup>++</sup>

\* Statistically significant:  $p < 0.01$

+Practically significant correlation (medium effect):  $r > 0.30$

++Practically significant correlation (large effect):  $r > 0.50$

Inspection of Table 3 shows that acceptable alpha coefficients were obtained for most of the scales compared with the guideline of  $\alpha > 0.70$  (Nunnally & Bernstein, 1994). Table 3 shows that Exhaustion is strongly related to Cynicism, Overload and Psychological Ill-health. Exhaustion is moderately related to Growth opportunities (inverse), Control (inverse) and Physical Ill-health. Cynicism is moderately related to Professional Efficacy (inverse), Growth Opportunities (inverse), Overload, Control (inverse), Physical and Psychological Ill-health. Professional Efficacy is negatively related to Growth Opportunities and Psychological Ill-health.

The frequencies and percentages of educators in the sample who experience low, moderate and high levels of Exhaustion, Cynicism and Professional Efficacy relatively to a South African normative sample ( $N = 8364$ ) are shown in Table 4.

**Table 4: Frequencies and percentages**

Dimension	Low		Moderate		High	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Exhaustion	53	19.9	88	33.1	125	47.0
Cynicism	80	30.1	72	27.1	114	42.9
Professional Efficacy	69	25.9	97	36.5	100	37.6

Table 4 shows that, compared with the normative sample, 47% of the educators experience high levels of exhaustion, whereas 43% experience high cynicism and 25.9% show low professional efficacy.

### Regression analyses

Next, standard multiple regression analyses were conducted with Exhaustion, Cynicism and Professional Efficacy (as measured by the MBI-GS) as dependent variables and job characteristics (as measured by the JDRS) as independent variables (see Table 5). The independent variables were entered into the regression analysis in two steps. In the case of Exhaustion, Overload (job demands) was entered in the first step, and the other variables (job resources) were entered in the second step. In the cases of Cynicism and Professional Efficacy, job resources were entered in the first step, while overload was entered in the second step.

The results in Table 5 show that Overload (as measured by the JDRS) explained 25% of the variance in Exhaustion (as measured by the MBI-GS). Three other factors, namely (lack of) Growth Opportunities and (lack of) control, explain an additional 10% of the variance in Exhaustion. The  $R^2$  indicates that 35% of the variance in Exhaustion is predicted by job demands (overload) and two job resources (a lack of growth opportunities and job control). This result is practically significant (large effect).

The results in Table 5 show that three job resources, namely (lack of) Growth Opportunities, (lack of) Job Control and Job Insecurity (as measured by the JDRS) explain 20% of the variance in Cynicism (as measured by the MBI-GS). Furthermore, an additional 9% of the variance in Cynicism is explained by Overload. However, Table 5 shows that the regression coefficients of Job Control and Job Insecurity are not statistically significant when Overload is entered into the regression analysis. The  $R^2$  indicates that 32% of the variance in Cynicism is explained by the job demands and job resources that were included in the regression analysis. This result was also practically significant (large effect). Growth Opportunities (as measured by the JDRS) explained 20% of the variance in Professional Efficacy. This result was practically significant (medium effect).

**Table 5: Standard multiple regression analyses with Exhaustion, Cynicism and Professional Efficacy as dependent variables**

Variable		Unstandardised Coefficients		Standardised Coefficients		<i>t</i>	<i>P</i>	<i>F</i>	<i>R</i> <sup>2</sup>	<i>R</i>
Exhaustion						88.89*	0.25+	0.50		
Step 1	(Constant)	-5.51	2.19			-2.51	0.01			
	Overload	0.90	0.10	0.50		9.43	0.00*			
Step 2	(Constant)	70.89	3.60			2.19	0.03			
	Overload	0.78	0.09	0.44		8.34	0.00*	20.03*	0.35++	0.59
	Organisational Support	0.01	0.07	0.01		0.19	0.85			
	Growth Opportunities	-0.38	0.11	-0.22		-3.61	0.00*			
	Job Insecurity	0.16	0.13	0.06		1.24	0.22			
	Social Support	-0.06	0.24	-0.02		-0.26	0.80			
	Control	-0.39	0.17	-0.15		-2.34	0.02*			
	Rewards	-0.09	0.17	-0.03		-0.53	0.60			
Cynicism										
Step 1	(Constant)	13.91	1.78			7.80	0.00	12.90	0.23+	0.48
	Organisational Support	0.05	0.05	0.08		1.12	0.27			
	Growth Opportunities	-0.42	0.07	-0.40		-5.98	0.00*			
	Job Insecurity	0.19	0.09	0.12		2.20	0.03*			
	Social Support	0.01	0.16	0.00		0.04	0.97			
	Control	-0.27	0.11	-0.16		-2.43	0.02*			
	Rewards	-0.11	0.11	-0.06		-0.92	0.36			
Step 2	(Constant)	5.26	2.27			2.31	0.02	16.97	0.32+	0.56
	Organisational Support	0.03	0.04	0.05		0.78	0.44			
	Growth Opportunities	-0.42	0.07	-0.40		-6.34	0.00*			
	Job Insecurity	0.14	0.08	0.09		1.70	0.09			
	Social Support	0.10	0.15	0.04		0.66	0.51			
	Control	-0.15	0.11	-0.09		-1.39	0.17			
	Rewards	-0.09	0.11	-0.05		-0.79	0.43			
	Overload	0.34	0.06	0.30		5.67	0.00*			

\*  $p < 0.01$

+ Practically significant (medium effect) –  $f^2 > 0.10$

++ Practically significant (large effect) –  $f^2 > 0.35$

A standard multiple regression analysis was conducted with Physical and Psychological (Ill) Health (as measured by the Health Questionnaire) as dependent variables and Exhaustion, Cynicism and Professional Efficacy (as measured by the MBI-GS) as independent variables. The results are shown in Table 6.

Table 6 shows that Physical Ill-health (as measured by the Health Questionnaire) is best predicted by Exhaustion (as measured by the MBI-GS). The  $R^2$  indicates that 16% of the variance in Physical Ill-health is predicted by Exhaustion, which is practically significant (medium effect). Psychological Ill-health (as measured by the Health Questionnaire) is best predicted by Exhaustion, Cynicism and a lack of Professional Efficacy. The  $R^2$  indicates that 38% of the variance in Psychological Ill-health is predicted by Exhaustion, Cynicism and a lack of Professional Efficacy. This result was practically significant (large effect).

**Table 6: Standard multiple regression analyses with Physical and Psychological Ill-health as dependent variables**

Variable		Unstandar- dised Coeffi- cients	Standar- dised Coeffi- cients	<i>t</i>	<i>P</i>	<i>F</i>	<i>R</i> <sup>2</sup>	<i>R</i>
Physical Ill-health								
(Constant)		11.79	1.54		7.64	0.00	17.42*	0.17+
Exhaustion		0.19	0.04	0.33	4.92	0.00*		
Cynicism		0.11	0.07	0.12	1.68	0.10		
Professional Efficacy		-0.01	0.05	-0.01	-0.16	0.88		
Psychological Ill-health								
(Constant)		14.22	1.53		9.29	0.00	54.21*	0.38++
Exhaustion		0.28	0.04	0.42	7.23	0.00*		
Cynicism		0.24	0.07	0.21	3.57	0.00*		
Professional Efficacy		-0.13	0.05	-0.15	-2.84	0.01*		

\*  $p < 0.05$

+ Practically significant (medium effect) –  $f^2 > 0.10$

++ Practically significant (large effect) –  $f^2 > 0.35$

## Discussion

The objective of this study was to assess the relationship between burnout, job characteristics and health. The results showed that job demands (overload), a lack of growth opportunities, and a lack of control were the best predictors of exhaustion of educators. A lack of job resources (including growth opportunities, job security and job control) contributed to cynicism, although only a lack of growth opportunities and overload were statistically significant predictors of cynicism if overload was entered into the regression analysis. Exhaustion contributed to physical ill-health, while exhaustion, cynicism and low professional efficacy contributed to the psychological ill-health of educators.

The results showed that educators in this sample obtained higher scores on exhaustion and cynicism than the South African norm. Previous studies of occupation-specific burnout profiles also showed that educators experience higher levels of exhaustion and cynicism than individuals in other occupations (Schaufeli & Buunk, 2003). Exhaustion was related to job demands (i.e. overload) and a lack of job resources (specifically growth opportunities and control). Exhaustion and cynicism were also relatively strongly related to both physical and psychological ill-health symptoms, although the relationship between cynicism and ill-health could be influenced by the shared variance between exhaustion and cynicism ( $r = 0.52$ ). Cynicism was moderately related to a lack of job resources.

Multiple regression analyses showed that exhaustion of educators is best predicted by overload, poor growth opportunities and a lack of control. Overload (which is regarded as a job demand) includes working under time pressure, attending to too many things at a time, having too much work to do and being confronted by emotionally upsetting situations in schools. The finding that overload predicted almost 25% of the variance in exhaustion, confirms previous findings (e.g. Schaufeli & Enzmann, 1998). In addition few growth opportunities (which refer to possibilities for independent thought, freedom in carrying out work activities, influence in planning of work activities, personal growth and variety at work) contributed to exhaustion. Furthermore a lack of control, such as few opportunities to be promoted, ambiguity and a lack of

possibilities to influence the decisions within schools, predicted exhaustion. According to Jones and Fletchers (2003), there is mounting evidence for the importance of job control in both coronary heart disease and reduced psychological wellbeing.

Overload (job demands) combined with limited opportunities for growth and a lack of control (i.e. low job resources) result in a high-strain job (see Figure 1). The *demand-control model* (Karasek & Theorell, 1990) identified a high-strain job as one that has a high level of responsibility, without accompanying autonomy and control. This pattern results in a high level of exhaustion and also cynicism (although the regression coefficient of job control was not significant when overload was entered with job resources into the regression equation). Lacking job resources (such as growth opportunities) preclude dealing effectively with job demands and foster mental withdrawal (cynicism). Cynicism of educators can be regarded as a self-protection mechanism to prevent frustration as a result of not achieving work-related goals (Demerouti *et al.*, 2001). Task characteristics (i.e. experiencing possibilities of independent thought, freedom in carrying out work activities, influence in planning of work activities, personal growth and variety at work) contributed to professional efficacy in this study.

The results confirmed that exhaustion predicts physical ill-health, whereas exhaustion, cynicism and lack of professional efficacy predict psychological ill-health. Therefore, it seems that exhaustion, cynicism and a lack of professional efficacy do contribute to symptoms of physical and psychological ill-health.

In conclusion, it seems that the JD-R model is a useful model in managing and preventing burnout of teachers. However, a limitation of this study was that a cross-sectional design was used, which makes it difficult to prove the causality of the obtained relationships. Furthermore, the sample was not representative of the major language groups in the North-West Province. Future studies should make use of representative samples of educators of all language groups.

## Recommendations

Primary and secondary education institutions should attend to the stressors of educators. The results suggest that interventions aimed at decreasing the workload of educators and/or making opportunities for recovery available should cause a decrease in exhaustion and cynicism. Furthermore interventions aimed at job resources could contribute to lower exhaustion and cynicism and higher professional efficacy. More specifically the following interventions could contribute to reducing exhaustion and cynicism and increasing professional efficacy: Firstly, time management courses could be presented to educators to help them deal with work overload. Secondly job redesign should be considered to enrich the jobs of educators (e.g. increasing growth opportunities, autonomy and variety). Thirdly, participative management practices should be implemented to increase educators' perceptions that they have control over their jobs. Fourthly, the promotional system in the education department seems to be an important target for intervention. Fifthly, role clarification team building interventions could be considered to deal with ambiguity in their jobs (e.g. regarding the role and function of teachers and the disciplinary system in schools).

Longitudinal research regarding causal relationships between burnout, health, job demands and job resources at educational institutions in South Africa should be undertaken.

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