

Burnout and health of primary school educators in the North West Province

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The aim of this research was to use the Job Demands-Resources model as a theoretical framework to test a structural model which included job characteristics, burnout, and ill-health for primary school educators in the North West Province. A cross-sectional survey design was used. Stratified random samples ($n = 646$) were taken of primary school educators in the North West Province. The Maslach Burnout Inventory-General Survey, the Job Characteristics Inventory, and the Health sub-scale of an Organisational Stress Screening Evaluation Tool (ASSET) were administered. Structural equation modelling showed that job demands and a lack of job resources contributed to ill-health through burnout, indicating that burnout mediated between job characteristics and ill-health.

Introduction

Educator burnout is a much talked of phenomenon because the teaching profession is generally regarded as a highly stressful profession (Pines, 2002; Whitehead, Ryba & O'Driscoll, 2000). A number of studies on burnout and stress have been conducted in the teaching profession in various countries such as the USA (Farber, 1984), the United Kingdom (Kyriacou & Pratt, 1985), Australia (Sarros & Sarros, 1992), Canada (Burke & Greenglass, 1993), and South Africa (Jackson & Rothmann, submitted 2004; Niehaus, Myburgh & Kok, 1996; Pretorius, 1993; Van den Berg, 2004; Van der Linde, Van der Westhuizen & Wissing, 1999). Within the South African context, as a result of current political and social changes and the influence of these changes on education structures, very high demands are being placed on educators. Apart from broad changes such as affirmative action, democracy, diversity, retrenchment and redeployment of educators, some of the more specific changes that educators have experienced include the transition from nineteen departments of education to one national and nine provincial departments of education, as well as the change from monocultural schools to multicultural schools (Myburgh & Poggenpoel, 2002).

Apart from the pressures of a changing country, teaching is in itself an incredibly demanding occupation. Various characteristics of the teaching profession and organisation place increasing stress on educators, leading to burnout and ill-health. These demands include an increasing workload, too many pupils in a class, an unsatisfactory classroom climate, various and competing tasks to complete, low decision-making powers, little support from colleagues, low salaries and also specific factors in the work situation, such as a lack of classroom discipline, routine, tension within the school, a lack of acknowledgement and support for what is being accomplished and a lack of material aids to accomplish tasks efficiently (Hammann, 1990; Huberman, 1993; Jacobs, 2002; McDonald & Van der Linde, 1993; Naido, 2005; Van der Westhuizen, Wissing & Hillebrand, 1992; Van den Berg, 2004). All these negative factors can lead to burnout and eventually ill-health (Maslach, 2000; Mestry, 1999).

According to Cordes and Dougherty (1993) and Schaufeli and Enzmann (1998), burnout develops as a reaction to particular job characteristics. Job characteristics are stressors which are associated with the performance of specific tasks that make up an individual's job (Kahn & Byosiere, 1990). These include the level of job complexity, the variety of tasks performed, the amount of discretion and control that individuals have over the pace and timing of their work, and the physical environment in which the work is performed. It is therefore important to investigate the relationship between job characteristics and burnout. According to Maslach, Schaufeli and Leiter (2001), burnout could also be an important mediator with various outcomes, one of them being ill-health. Because the relationship between burnout and poor health is a central tenet of health psychology, and because this relationship is the underlying rationale for all sorts of wellness programmes and interventions in the workplace (Maslach, 2001), it is also important to investigate the relationship between burnout and ill-health.

Burnout, job characteristics and health

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). The Maslach Burnout Inventory – Human Services Survey (MBI-HSS) (Maslach & Jackson, 1986) has been used to measure burnout in the human service sector. Maslach and Jackson (1986) conceptualised burnout as encompassing the components of emotional exhaustion, depersonalisation, and reduced personal accomplishment. However, Schaufeli, Martinez, Pinto, Salanova and Bakker (2002) explain that burnout is no longer restricted to the caring professions, and that all types of professions and occupational groups can experience burnout. Schaufeli, Leiter, Maslach and Jackson (1996) recently developed the Maslach Burnout Inventory-General Survey (MBI-GS), which is an adapted version of the Maslach Burnout Inventory (MBI) for use outside human services. It measures three dimensions, namely, exhaustion, cynicism and a lack of professional efficacy. Contrary to the MBI-HSS, the exhaustion items of the MBI-GS are generic; they refer to fatigue, but without direct reference to people as the source of those feelings, as in the MBI-emotional exhaustion subscale. Cynicism reflects indifference or a distant attitude towards one's work in general. Unlike previous versions, the MBI-GS items refer to work itself rather than to recipients of one's service or personal relationships at work. Professional efficacy has a broader scope than personal accomplishment as measured by the MBI-HSS. It encompasses both social and non-social accomplishments at work. High scores on exhaustion and cynicism and low scores on professional efficacy are indicative of burnout.

According to Schaufeli (2003) one can argue that exhaustion and mental distancing (cynicism and depersonalisation) constitute the two key aspects of burnout. Exhaustion refers to the fact that the employee is incapable of performing as all energy has been drained, whereas mental distancing indicates that the employee is no longer willing to perform because of an increased intolerance of any effort. Mental distancing — or psychological withdrawal from the task — can be seen as an adaptive mechanism to cope with excessive job demands and resulting feelings of exhaustion (Maslach *et al.*, 2001). However, when this coping strategy becomes a habitual pattern — as in cynicism or depersonalisation — the person concerned becomes dysfunctional because it disrupts adequate task performance. In their turn, job demands and exhaustion are further increased so that the vicious circle is completed.

Essentially, incapacity and unwillingness to perform are considered as two sides of the same coin (Schaufeli, 2003). Empirical findings also point to the central role of exhaustion and mental distancing as opposed to the third component, lack of professional efficacy. First, relatively low correlations of professional efficacy are observed with exhaustion and cynicism, whereas these two burnout dimensions are correlated relatively strongly (Lee & Ashforth, 1996). In similar vein, both "core of burnout" factors sometimes collapse into one factor (Green, Walkey & Taylor, 1991). Second, it seems that cynicism develops in response to exhaustion, whereas professional efficacy appears

to develop independently and in parallel with it (Leiter, 1993). Third, professional efficacy is the weakest burnout dimension in terms of significant relationships with other variables (Lee & Ashforth, 1996). Moreover, several researchers have argued that professional efficacy reflects a personality characteristic rather than a genuine burnout component (Shirom, 1989; Cordes & Dougherty, 1993).

According to many researchers, ill-health is a critical outcome of burnout (Leiter & Maslach, 2000; Schaufeli & Buunk, 2002; Schaufeli & Enzmann, 1998). According to Maslach (2001), the causal relationship between burnout and health is considered to be a true fact in most stress research that has looked at the impact of the stress experience on physical symptoms and disease (e.g. coronary heart disease), and on health-impairing behaviours (e.g. smoking and alcohol abuse). There is evidence in the literature which consistently links occupational stress and burnout with physical and psychological ill-health. Heart disease, ulcers, some forms of cancer, allergies, migraine, back problems, depression and an increased frequency of minor ailments such as colds and flu have been associated with stress and burnout (Ho, 1997; Ryff & Singer, 1998; Sethi & Schuler, 1990). In their study of burnout in a higher education institution in South Africa, Barkhuizen, Rothmann and Tytherleigh (2004) found that exhaustion was related to health problems. According to Maslach *et al.* (2001), perceived stressors lead to emotional reactions, which in turn lead to ill-health. Jackson, Rothmann and Van de Vijver (submitted 2004) also found a relationship between burnout and ill-health in a sample of educators.

Burnout is an individual experience that is specific to the work context (Maslach *et al.*, 2001). Various possible causes of burnout have been investigated, such as individual characteristics, which include demographic characteristics, personality characteristics and job attitudes (Maslach *et al.*, 2001). Other situational factors have also been researched as possible causes of burnout, such as occupational characteristics and organisational characteristics. Recently job characteristics have also been identified as influencing burnout (Maslach *et al.*, 2001; Schaufeli & Buunk, 2002).

To test the relationship between job characteristics and burnout, Demerouti, Bakker, Nachreiner and Schaufeli (2001) developed the Job Demands–Resources (JD-R) model of burnout. A central proposition of the JD-R model is that, although every occupation may have its own specific job characteristics, it is still possible to model these characteristics in two broad categories, 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 which are therefore associated with certain physiological and/or psychological costs. Examples are a high work pressure, role overload, emotional demands, and poor environmental conditions. Job resources refer to those physical, psychological, social or organisational aspects of the job that (1) are functional in achieving work goals; (2) reduce job demands and the associated physiological and psychological costs; or (3) stimulate personal growth and development. Resources may be located in the task itself (e.g. performance feedback, skill variety, task significance, task identity, autonomy) (*cf.* Hackman & Oldham, 1976), as well as in the context of the task, for instance organisational resources (e.g.

career opportunities, job security, salary) and social resources (e.g. supervisor and co-worker support, and team climate). According to Schaufeli and Bakker (2004), job resources may play either a task 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). A second assumption in the JD-R model is that job characteristics may evoke two different processes. First, high job demands may exhaust employees' mental and physical resources and may therefore lead to burnout and health problems (e.g. Demerouti *et al.*, 2001; Lee & Ashforth, 1996; Leiter, 1993). Second, poor or missing job resources preclude actual goal accomplishment, which is likely to cause failure and frustration.

Based on the assumptions of the JD-R model, it appears that job characteristics (consisting of too many job demands and too few job resources), will lead to burnout, which will in turn lead to ill-health (see Figure 1).

It follows logically that job characteristics will influence ill-health through burnout, meaning that burnout will mediate¹ between job characteristics (e.g. job demands and job resources) and ill-health. In order to test these assumptions, this research tested a structural model, including job characteristics, burnout and ill-health for primary school educators in the North West Province.

Method

Research design

A cross-sectional survey design, whereby a sample is drawn from a population at one time, was used. Schaufeli and Enzmann (1998) criticise the use of cross-sectional designs in burnout research and recommend that experiments and longitudinal studies should be used when possible. However, structural equation modelling was used to address the problems associated with this design (Byrne, 2001).

Participants

A stratified random sample ($n = 646$) was taken from primary school educators in public schools in the North West Province in South Africa. The strata used were divided into three groups, namely (1) the district (there are 12 districts in the province); (2) the type of school according to funding; and (3) the size of the school. Table 1 presents some of the characteristics of the participants.

According to Table 1, 73.16% of the participants were female and 48.98% were married. A total of 47.14% of the participants had completed Grade 12 and a four-year higher education diploma or degree. Just over half of the participants (50.55%) spoke Setswana as a first language, and 21.60% had Afrikaans as their home language.

Measuring instruments

The following questionnaires were utilised in the empirical study:

- **Burnout.** An adapted version of the Maslach Burnout Inventory –General Survey (MBI-GS) (Schaufeli *et al.*, 1996) was used to measure burnout. The following sub-scales of the MBI-GS were used: Exhaustion (five items; e.g. "I feel used up at the end of the workday"), and Mental Distance (nine items; e.g. "I have become less enthusiastic about my work"). All items were scored on a

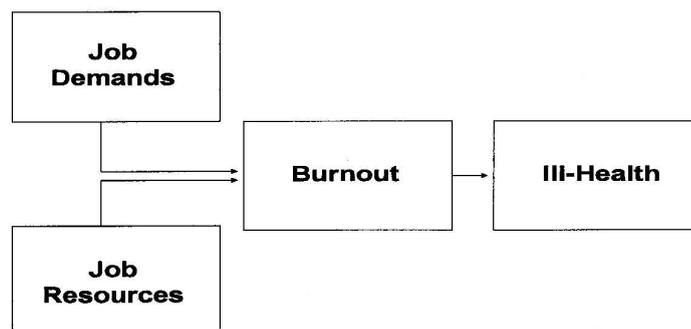


Figure 1 The hypothesised structural model of job characteristics, burnout and ill-health

Table 1 Characteristics of the participants

Item	Category	%
Gender	Male	26.84
	Female	73.16
Marital status	Single	19.87
	Engaged / In a relationship	3.44
	Married	48.98
	Divorced	22.85
	Separated	3.60
	Remarried	1.25
Qualification	M + 3 (e.g. Grade 12 + diploma)	37.98
	M + 4 (e.g. Grade 12 + Higher diploma or degree, BA)	47.14
	M + 5 (e.g. Grade 12 + Higher diploma + degree, Hons, BA, BEd)	14.12
	M + 6 (e.g. Grade 12 + Higher diploma + degree, MA, MEd)	0.76
Language	Afrikaans	21.60
	English	0.94
	Sepedi	3.64
	Sesotho	15.96
	Setswana	50.55
	SiSwati	0.94
	Tshivenda	0.16
	IsiNdebele	0.63
	IsiXhosa	4.07
	IsiZulu	1.41
	Xitsonga	0.16

seven-point frequency rating scale ranging from 0 (never) to 6 (daily). Recently, Jackson and Rothmann (2004) confirmed a three-factor model of burnout for educators consisting of exhaustion, mental distance (cynicism and depersonalisation) and professional efficacy. They also confirmed the construct equivalence and construct validity of these scales. The internal consistencies (Cronbach alpha coefficients) reported by Schaufeli *et al.* (1996) varied from 0.87 to 0.89 for Exhaustion, and from 0.73 to 0.84 for Cynicism. Test-retest reliabilities after one year were 0.65 (Exhaustion) and 0.60 (Cynicism) (Schaufeli *et al.*, 1996). Storm and Rothmann (2003) found support for the construct validity of the MBI-GS for police members. The following alpha coefficients were obtained for the two sub-scales of the MBI-GS: Exhaustion: 0.88; and Cynicism: 0.79.

- **Job characteristics.** The Job Characteristics Inventory (JCI) was developed by the authors to measure job demands and job resources for educators. The JCI consists of 31 items. The questions are rated on a scale ranging from 1 (never) to 4 (always). The dimensions of the JCS 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 about work, information, communications, participation and contact possibilities.
- **Health.** The Health sub-scales of the ASSET (An Organisational Stress Screening Evaluation Tool) (Cartwright & Cooper, 2002) were used to measure physical and psychological ill-health. The Health sub-scales consist of 18 items arranged on two sub-scales, Physical Health and Psychological Health. The questionnaire is scored on a four-point scale varying from 1 (never) to 4 (often). All items on the Physical Health sub-scale relate to physical symptoms of stress. The role of this sub-scale is to give an insight into physical health, not an in-depth clinical diagnosis. The items listed on the Psychological Health sub-scale are symptoms of stress-induced mental ill-health. Johnson and Cooper (submitted 2003) found a Guttman split-half reliability coefficient of 0.74 and 0.91 for the Physical and Psychological Health sub-scales, respectively. They also found that the Psychological Health sub-scale has good convergent validity with an existing measure of psychiatric disorders, the General Health Questionnaire (Goldberg & Williams, 1988).

Statistical analysis

The statistical analysis was carried out with the SPSS program (SPSS Inc., 2003) and the Amos program (Arbuckle, 1999). Exploratory factor analyses and Cronbach alpha coefficients were used to assess the validity and reliability of the constructs measured in this study. Descriptive statistics (means, standard deviations, skewness and kurtosis) and inferential statistics were used to analyse the data.

Exploratory factor analyses were carried out to determine the construct validity of the measuring instruments. The following procedure was followed: Firstly, a simple principal components analysis was conducted on the constructs which formed part of the structural model, including (a) burnout; (b) job characteristics; (c) ill-health. The eigenvalues and scree plot were studied to determine the number of factors. Secondly, a principal components analysis with a direct oblimin rotation was conducted if factors were related ($r > 0.30$). Thirdly, a principal component analysis with a varimax rotation was used if the obtained factors were not related (Tabachnick & Fidell, 2001).

Pearson product-moment correlation coefficients were used to specify the relationship between the variables. In terms of statistical significance, it was decided to set the value at a 99% confidence interval level ($p \leq 0.01$). Effect sizes (Steyn, 1999) were used to decide on the practical significance of the findings. A cut-off point of 0.30 (medium effect; Cohen, 1988) was set for the practical significance of correlation coefficients.

Hypothesised relationships in the structural model were tested empirically for goodness of fit with the sample data. The χ^2 and several other goodness-of-fit indices summarise the degree of correspondence between the implied and observed covariance matrices. However, because the χ^2 statistic equals $(N-1)F_{\min}$, this value tends to be substantial when the model does not hold and the sample size is large (Byrne, 2001). The following goodness-of-fit indices were used as adjuncts to the χ^2 statistics: (a) the Goodness of Fit Index (GFI); (b) the Adjusted Goodness of Fit Index (AGFI); (c) the Normed Fit Index (NFI); (d) the Comparative Fit Index (CFI); (e) the Tucker-Lewis Index (TLI); and (f) the Root Mean Square Error of Approximation (RMSEA).

Results

Construct validity of the measuring instruments

Burnout

A simple principal component analysis was conducted on the exhaustion, cynicism and depersonalisation items of the MBI. The scree plot and eigenvalues provided evidence for a two-factor solution which explained 41.4% of the total variance. Principal component analysis with an oblimin rotation resulted in two correlated factors ($r = 0.33$), namely Exhaustion and Mental Distance.

Job demands and job resources

A principal component analysis that was carried out on the 31 items of the JCS showed three factors, which explained 38.18% of the total variance. Next, a principal component analysis with an oblimin rotation was conducted on the items of the JCS. Principal component analysis with an oblimin rotation resulted in three factors, namely Job Demands, Task Resources and Organisational Resources.

The first factor, Job Demands, included the following items (loadings are shown in brackets): too much work to do (0.50); working under time pressure (0.65); being attentive to many things at the same time (0.59); remembering many things during work (0.49); confronted with things that affect you personally (0.60); contact with difficult children (0.48); emotionally upsetting situations (0.66); and repeating the same things (0.51).

The second factor, Task Resources, included the following items: sufficient demands on skills and capacities (0.51); enough variety in the work (0.54); opportunities for personal growth and development (0.61); feelings of achievement (0.65); possibility of independent thought and action (0.67); freedom in carrying out work activities (0.55); planning of work activities (0.46); clear decision-making pro-

cess (0.55); and whom to address for specific problems (0.46).

The third factor, Organisational Resources, included the following items: counting on colleagues (0.59); asking colleagues for help (0.56); getting along with colleagues (0.56); counting on supervisor (0.67); getting along with supervisor (0.68); feeling appreciated by supervisor (0.67); knowing what other people expect (0.43); knowing your responsibilities (0.42); knowing what your supervisor thinks of your performance (0.59); receiving sufficient information on the purpose of your work (0.57); receiving sufficient information on the results of your work (0.61); information on how well you are doing your work (0.67); kept adequately up-to-date about important issues (0.50); and discussion of problems with supervisor (0.60).

Subsequently, the three factors of the JCI were subjected to a second-order principal component factor analysis. Two factors, which explained 53.41% of the variance, were extracted. Because the factors were not highly related ($r = -0.12$), it was decided to use principal factor analysis with a varimax rotation to extract the factors. Job Demands (loading = 0.99) formed the first factor, while Task Resources (loading = 0.88) and Organisational Resources (loading = 0.89) formed the second factor (labelled Job Resources).

Ill-health

A simple principal component analysis carried out on the 18 items of the Health sub-scales of the ASSET resulted in two factors, which explained 48.79% of the variance. Next, a principal component analysis with an oblimin rotation was conducted on the 18 items. The two related factors ($r = 0.45$) that were extracted were labelled Physical Ill-Health (8 items) and Psychological Ill-Health (10 items).

Descriptive statistics

Table 2 shows the descriptive statistics and the Cronbach alpha coefficients of the measuring instruments.

Table 2 Descriptive statistics and Alpha coefficients of the measuring instruments

Item	Mean	SD	Skewness	Kurtosis	α
Exhaustion	12.80	7.00	0.14	-0.57	0.74
Mental Distance	16.60	9.89	0.60	-0.05	0.75
Job Demands	21.40	4.02	0.03	-0.08	0.71
Task Resources	27.05	4.96	-0.29	-0.49	0.79
Organisational Resources	44.35	7.38	-0.53	-0.14	0.87
Physical Ill-health	18.90	5.52	-0.07	-0.56	0.84
Psychological Ill-health	18.42	6.19	0.76	0.37	0.88

Inspection of Table 2 shows that acceptable Cronbach alpha coefficients were obtained for all the scales. All the alpha coefficients were higher than the guideline of $\alpha > 0.70$ (Nunnally & Bernstein, 1994). The scores on the JCI, MBI-GS and Health Questionnaires are normally distributed. It therefore appeared that all the measuring instruments had acceptable levels of internal consistency.

Correlations between the constructs

The product-moment correlation coefficients between constructs are reported in Table 3.

Table 3 shows a practically significant correlation coefficient of a large effect between Exhaustion and Mental Distance. Exhaustion and Mental Distance are practically significantly related (medium effect) to Job Demands. Exhaustion is practically significantly related (large effect) to Task Resources and statistically significantly related to Organisational Resources. Table 3 shows statistically significant correlation coefficients between Mental Distance, Task Resources and Organisational Resources. Both Exhaustion and Mental Distance are practically significantly related (medium effect) to Physical and Psychological Ill-health.

Table 3 Correlation coefficients between the constructs

Item	1	2	3	4	5	6
1. Exhaustion	-	-	-	-	-	-
2. Mental Distance	0.51*++	-	-	-	-	-
3. Job Demands	0.42*+	0.36*+	-	-	-	-
4. Task Job Resources	-0.32*+	-0.29*	-0.13*	-	-	-
5. Organisational Resources	-0.22*	-0.17*	-0.09	0.56*++	-	-
6. Physical Ill-health	0.43*+	0.34*+	0.33*+	-0.24*	-0.17*	-
7. Psychological Ill-health	0.45*+	0.44*+	0.35*+	-0.33*+	-0.25*	0.68*++

* Significant: $p < 0.01$

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

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

A structural model of burnout

A more comprehensive test of the relationships between burnout, job characteristics and ill-health can be accomplished with structural equation modelling (SEM) methods as implemented by AMOS (Arbuckle, 1999). A model was constructed based upon the results of the product-moment correlations and the consensus of findings from a review of the burnout literature applicable to the teaching profession. The fit of the hypothetical model was assessed by (1) a quick overview of the overall χ^2 value, together with its degrees of freedom and probability value; and (2) global assessments of model fit based on several goodness-of-fit statistics. Given findings of an ill-fitting initially hypothesised model, possible mis-specifications as suggested by the so-called modification indices were looked for and eventually a revised, re-specified model was fitted to the data.

A model that included the hypothesised relationships was tested with SEM analysis. Results indicated that the model fitted excellently to the data: $\chi^2 = 28.26$; $\chi^2 / df = 2.36$; GFI = 0.99; AGFI = 0.97; NFI = 0.98; TLI = 0.98; CFI = 0.99; RMSEA = 0.05. The standardised regression coefficients are shown in the model in Figure 2.

As can be seen in Figure 2, the path from Job Demands and Job Resources to Burnout was statistically significant. Therefore, Job Demands and a lack of Job Resources (consisting of Task Resources and Organisational Resources) contributed to Burnout (consisting of Exhaustion and Mental Distance). Furthermore, the model indicates that burnout has a strong influence on ill-health (consisting of Physical Ill-health and Psychological Ill-health). It therefore appears that burnout mediates the relationship between job characteristics and ill-health.

Discussion

The aim of this study was to test a structural model that included burnout, job characteristics and ill-health for primary school educators. The sample consisted of 646 primary school educators in the public sector in the North West Province. An excellent fit was found for the structural model in which job characteristics (job demands and job resources) predict burnout of educators. Burnout also influenced ill-health, therefore mediating the effect of job characteristics on physical and psychological ill-health.

Regarding the factor structure of burnout, principal component analysis with an oblimin rotation resulted in two correlated factors, namely Exhaustion and Mental Distance. Regarding organisational causes of burnout, three main factors, namely Job Demands, Task Resources and Organisational Resources, were extracted by using exploratory factor analysis. A second-order principal component factor analysis was conducted and two factors were extracted, namely Job Demands and Job Resources. Job Resources consisted of task and organisational resources. This is consistent with Schaufeli and Bakker (2004), who argue that job resources may be located in the task itself (e.g. skill variety, task significance, task identity, autonomy), as well as in the context of the task, for instance, organisational resources (e.g. career opportunities, supervisor and co-worker support, team climate).

Regarding the relationship of job characteristics and burnout, the

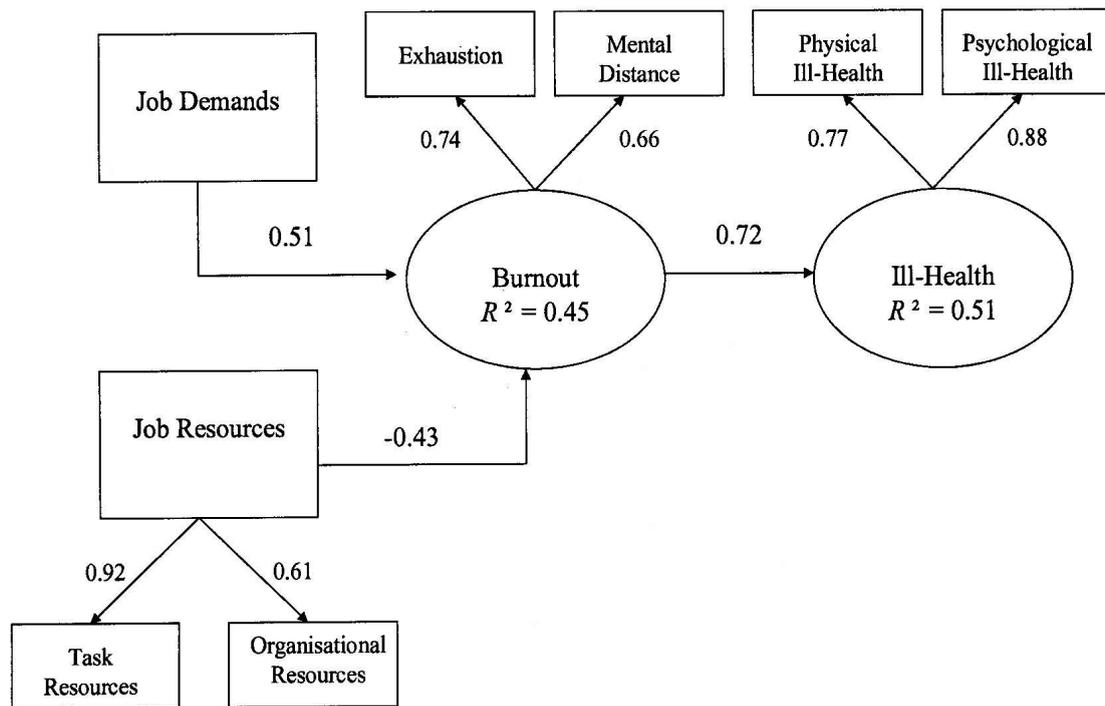


Figure 2 Maximum likelihood estimates for the model of occupational stress, burnout and coping (Note: All factor loadings and path coefficients are significant ($p < 0.01$))

structural model showed that job demands (i.e. too much work, working under time pressure, contact with difficult children, dealing with emotionally upsetting situations, being confronted with a personally upsetting situation) are strongly related to burnout (exhaustion and mental distance). Furthermore, a lack of job resources also seems to be related to burnout. Therefore, when educators do not have task resources (resources that foster growth, learning and development, e.g. enough variety in the work, opportunities for personal growth and development, sufficient demands on their skills and capacities, the possibility of independent thought and action, freedom in carrying out and planning their work activities), and organisational resources (resources that are instrumental in achieving work goals, e.g. social support from colleagues, adequate supervision and management, feedback regarding performance, information on responsibilities and expectations), this could lead to burnout. Therefore, high job demands and a lack of resources to deal with these demands could lead to educators becoming exhausted, incapable of performing (because all their energy has been drained), developing an increased intolerance of any effort and an unwillingness to perform.

The structural model also showed that burnout mediates the relationship between job characteristics (job demands and job resources) and physical and psychological ill-health. Although one may argue that the relationships among job characteristics (the independent variable), burnout (mediator) and outcome (ill-health) may not necessarily be "causal", the nature of the mediated relationship is such that the independent variable (job characteristics) influences the mediator (burnout) which, in turn, influences the outcome (ill-health) (see Holmbeck, 1997). This implies that burnout intervenes between the stimulus (job characteristics) and the response (ill-health) (Baron & Kenny, 1986). Therefore, when high job demands are experienced with few resources to cope with these demands, burnout will develop, which will eventually lead to physical ill-health (e.g. indigestion or heartburn, insomnia, headaches, lack of appetite or over-eating, muscular tension, aches and pains, constant tiredness) and psychologically ill-health (e.g. constant irritability, feeling unable to cope, mood

swings, difficulty in making decisions). The relationship between burnout and health confirm various research findings (Barkhuizen *et al.*, 2004; Ho, 1997; Jackson *et al.*, 2004; Maslach *et al.*, 2001; Ryff & Singer, 1998; Sethi & Schuler, 1990).

In conclusion, when educators experience high job demands but have too few resources to deal with these demands, they will experience exhaustion and become mentally distant. This means that the educator could have a negative and even callous attitude towards the teaching profession, management (or their change initiatives) of the school where he/she is employed or even the provincial/national education department. It is also possible that burnt out educators could have negative and callous attitudes towards learners. The critical outcome of burnout is impaired physical and psychological health, influencing not only the well-being of educators, but also have financial and production implications. It is therefore important for management to realise that the relationship between burnout and ill-health is the underlying rationale for all sorts of wellness programmes and interventions in the workplace and that a physically healthy workforce will be more productive and less costly (in terms of sick leave, health insurance, turnover, etc.). It is therefore necessary to manage the demands placed on educators and to ensure that they have adequate resources to deal with increasing demands.

A limitation of this study is that the design was cross-sectional. As a result, no causal inferences could be drawn, despite the use of advanced structural equation modelling techniques. Therefore, the causal relationships between variables were interpreted rather than established, and more complex forms of non-recursive linkages could not be examined. Furthermore, the results were obtained solely by self-report measures. This may have led to a problem commonly referred to as "method variance" or "nuisance".

Recommendations

The teaching profession plays a vital role in the country's education. It is therefore important for primary education institutions to attend to burnout and ill-health in order to ensure the well-being of educators.

Although it is important to assist individual educators whose well-being is affected by their work, an organisational rather than an individual approach is likely to be more effective, as important stressors (job demands and a lack of job resources) were found to be at an organisational level. This suggests that interventions aimed at decreasing the job demands of educators should cause a decrease in experienced burnout, including exhaustion and mental distance. Furthermore, interventions aimed at increasing job resources could contribute to lower burnout. Specific areas of intervention include provision of resources that foster growth, learning and development as well as resources that are instrumental in achieving work goals. It is also important to undertake longitudinal research regarding the relationship between burnout, health and job characteristics at education institutions in South Africa in order to determine the causal relationships that exist between these variables.

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Note

1. A mediator specifies how (or the mechanism by which) a given effect occurs (Baron & Kenny, 1986; James & Brett, 1984). More specifically, Baron and Kenny (1986:1173-1178), describe a mediator variable as "the generative mechanism through which the focal independent variable is able to influence the dependent variable of interest and that mediation ... is best done in the case of a strong relation between the predictor and the criterion variable. Stated more simply, "the independent variable causes the mediator which then causes the outcome" (Shadish & Sweeney, 1991: 883).

References

- Arbuckle JL 1999. *Amos 5.0*. Chicago, IL: Smallwaters.
- Bakker AB, Schaufeli WB, Sixma HJ & Bosveld W 2001. Burnout contagion among general practitioners. *Journal of Social and Clinical Psychology*, 20:82-98.
- Barkhuizen N, Rothmann S & Tytherleigh Y 2004, April. Burnout and engagement of academic staff in higher education institutions in South Africa. Poster presented at the *Annual Conference of the British Psychological Society*, London, UK.
- Baron RM & Kenny DA 1986. The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51:1173-1182.
- Burke RJ & Greenglass ER 1993. Work stress, role conflict, social support and psychological burnout among teachers. *Psychological Reports*, 73:371-380.
- Byrne BM 2001. *Structural equation modelling with Amos: Basic concepts, applications and programming*. Mahwah, NJ: Lawrence Erlbaum.
- Cartwright S & Cooper CL 2002. *ASSET: An Organisational Stress Screening Tool — The Management Guide*. Manchester, UK: RCL Ltd.
- Cohen J 1988. *Statistical power analysis of the behavioural sciences*, 2nd edn. Orlando, CA: Academic Press.
- Cordes CL & Dougherty TW 1993. A review and integration of research on job burnout. *Academy of Management Review*, 18:621-656.
- Demerouti E, Bakker AB, Nachreiner F & Schaufeli WB 2001. The job demands-resources model of burnout. *Journal of Applied Psychology*, 86:499-512.
- Farber BA 1984. Teacher burnout: Assumptions, myths and issues. *Teachers College Record*, 8:321-338.
- Goldberg DP & Williams P 1988. *A user's guide to the GHQ*. London: NFER, Nelson.
- Green DE, Walkey FH & Taylor AJW 1991. The three-factor structure of the Maslach Burnout Inventory. *Journal of Social Behavior and Personality*, 6:453-472.
- Hammann DL 1990. Burnout: How to spot it, how to avoid it. *Music Educators Journal*, 2:30-33.
- Ho JTS 1997. Corporate wellness programmes in Singapore: Effect on stress, satisfaction and absenteeism. *Journal of Managerial Psychology*, 12:177-189.
- Huberman M 1993. Burnout in teaching careers. *European Education*, 25:47-69.
- Jackson LTB & Rothmann S (submitted 2004). An adapted model of burnout for teachers in South Africa.
- Jackson LTB, Rothmann S & Van de Vijver FJR (submitted 2004). A model of work-related well-being for teachers in South Africa.
- Jacobs E 2002. Many say they are overwhelmed by work — Stress takes big toll on teachers. *Pretoria News*, December 2.
- Johnson S & Cooper C (submitted 2003). The construct validity of the ASSET stress measure.
- Kahn R & Byosiere P 1990. Stress in organizations. In: Dunnette M & Hough L (eds). *Handbook of industrial and organizational psychology*, Vol. 3, 2nd edn. Palo Alto, CA: Consulting Psychologists Press.
- Kyriacou C & Pratt J 1985. Teacher stress and psychoneurotic symptoms. *British Journal of Educational Psychology*, 55:61-64.
- Lee RT & Ashforth BE 1996. A meta-analytic examination of the correlates of the three dimensions of job burnout. *Journal of Applied Psychology*, 81:123-133.
- Leiter MP 1991. Coping patterns as predictors of burnout. *Journal of Organizational Behavior*, 12:123-144.
- Leiter MP 1993. Burnout as a developmental process. Consideration of models. In: Schaufeli WB, Maslach C & Marek T (eds). *Professional burnout: Recent developments in theory and research*. Washington, DC: Taylor & Francis.
- Leiter MP & Maslach C 2000. Burnout and health. In: Baum A, Revenson T & Singer J (eds). *Handbook of health psychology*. Hillsdale, NJ: Lawrence Erlbaum.
- Maslach C 2000. A multidimensional theory of burnout. In: Cooper CL (ed.). *Theories of organizational stress*. New York: Oxford University Press.
- Maslach C 2001. What have we learned about burnout and health? *Psychology and Health*, 16:607-611.
- Maslach C & Jackson SE 1986. *The Maslach Burnout Inventory*, 2nd edn. Palo Alto, CA: Consulting Psychologists Press.
- Maslach C, Schaufeli WB & Leiter MP 2001. Job burnout. *Annual Review of Psychology*, 53:397-422.
- McDonald MEW & Van der Linde CH 1993. Die rol en taak van die onderwyser as potensiele bronne van stress vir die onderwyser. *Educare*, 22:134-143.
- Mestry R 1999. The role of principals in the management of stress and burnout. *Education Practice*, 3:19-23.
- Myburgh CPH & Poggenpoel M 2002. Teachers' experience of their school environment — implications for health promotion. *Education*, 23:260-279.
- Naidu B 2005. R6m to help teachers fight stress. *Metro, Sunday Times*, 10 July.
- Niehaus L, Myburgh CPH & Kok JC 1996. South African high school teachers' personal beliefs and their ability to hold their own. *South African Journal of Education*, 16:104-111.
- Nunnally JC & Bernstein IH 1994. *Psychometric Theory*, 3rd edn. New York, NY: McGraw-Hill.
- Peeters MCW & Le Blanc PM 2001. Towards a match between job demands and sources of social support: A study among oncology care providers. *European Journal of Work and Organizational Psychology*, 10:53-72.
- Pines AM 2002. Teacher burnout: A psychodynamic existential perspective. *Teachers and Training: Theory and Practice*, 8:121-140.
- Pretorius TB 1993. Commitment, participation in decision-making and social support: Direct and moderating effects on the stress-burnout relationship within an educational setting. *South African Journal of Psychology*, 23:10-14.
- Ryff CD & Singer B 1998. The contours of positive human health. *Psychological Inquiry*, 9:1-28.
- Sarros JC & Sarros AM 1992. Social support and teacher burnout. *Journal of Educational Administration*, 30:55-69.
- Schaufeli WB 2003. Past performance and future perspectives of burnout research. *Journal of Industrial Psychology*, 29:1-15.
- Schaufeli WB & Bakker AB 2004. Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study. *Journal of Organizational Behaviour*, 25:1-23.
- Schaufeli WB & Buunk BP 2002. Burnout: An overview of 25 years of research and theorizing. In: Schabracq MJ, Winnubst JAM & Cooper CL (eds). *Handbook of work and health psychology*. Chichester, UK: Wiley.

- Schaufeli WB & Enzmann D 1998. *Burnout in the human services*. London: Taylor & Francis.
- Schaufeli WB, Leiter MP, Maslach C & Jackson SE 1996. MBI-General Survey. In: Maslach C, Jackson SE & Leiter MP (eds). *Maslach Burnout Inventory Manual*, 3rd edn. Palo Alto, CA: Consulting Psychologists Press.
- Schaufeli WB, Martinez I, Pinto AM, Salanova M & Bakker AB 2002. Burnout and engagement in university students: A cross-national study. *Journal of Cross-Cultural Psychology*, 33:464-481.
- Sethi AS & Schuler RS 1990. *Handbook of organizational stress coping strategies*. Cambridge, MA: Ballinger.
- Shirom A 1989. Burnout in work organizations. In: Cooper CL & Robertson IT (eds). *International review of industrial and organizational psychology*. Chichester, UK: Wiley.
- SPSS Inc 2003. *SPSS 12.0 for Windows*. Chicago, IL: Author.
- Steyn HS 1999. Praktiese betekenisvolheid: Die gebruik van effekgroottes. Wetenskaplike bydraes — Reeks B: Natuurwetenskappe Nr. 117. Potchefstroom: Potchefstroom Universiteit.
- Storm K & Rothmann S 2003. A psychometric analysis of the Maslach Burnout Inventory – General Survey in the South African Police Services. *South African Journal of Psychology*, 39:219-266.
- Tabachnick BG & Fidell LS 2001. *Using multivariate statistics*, 4th edn. Boston, MA: Allyn & Bacon.
- Van den Berg 2004. Stresbeleding en -hantering by Onderwysers. MEd verhandeling. Universiteit van Suid-Afrika.
- Van der Linde AH, Van der Westhuizen C & Wissing MP 1999. Burnout in female educators. *South African Journal of Education*, 19:192-196.
- Van der Westhuizen PC, Wissing MP & Hillebrand IH 1992. Werksbevrediging by die onderwysers. *Tydskrif vir Geesteswetenskappe*, 32:40-51.
- Whitehead A, Ryba K & O'Driscoll M 2000. Burnout among New Zealand primary school teachers. *New Zealand Journal of Psychology*, 29:52-60.

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