A model of work-related well-being for educators in South Africa

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Summary
The aims of this study were to assess the validity and internal consistency of constructs in a model of work-related well-being and to test a structural model of their relationships. The Maslach Burnout Inventory—General Survey, Utrecht Work Engagement Scale, a Job Demands-Resources Scale, a Health Questionnaire, and an Organizational Commitment Scale were administered to a stratified random sample of 1177 educators in North-west Province (South Africa). A good fit was found for a model in which burnout (exhaustion and mental distance) mediated the relationship between job demands and ill-health, while work engagement (vigor and dedication) mediated the relationship between job resources and organizational commitment. Job resources contributed strongly to low burnout and high work engagement. These results suggest that both positive and negative aspects of work-related well-being (i.e. burnout and work engagement) can be integrated into one model. Copyright © 2006 John Wiley & Sons, Ltd.

Key Words
Well-being; job demands; burnout; work engagement

Introduction
Education plays an important role in the development of the South African economy. Although South Africa has one of the highest rates of government expenditure in education in the world (almost 6 per cent of gross domestic product), the quality of public schools varies considerably (World Economic Forum, 2002). Also, racism, violence and antisocial behavior, learner boycotts, educator strikes and shortage of skilled personnel trouble education. Furthermore, the number of issued Senior Certificates which give access to university education dropped by 14 per cent between 1995 and 2001 (Department of Education, 2001). Therefore, motivated and vigorous educators are essential to meet and eventually eradicate these problems.

Educator stress and burnout have received recognition as a widespread problem and global concern in recent years (Borg, 1990; Boyle, Borg, Falzon, & Baglioni, 1995; Kyriacou, 2001). For
example, Borg (1990) found that one third of British teachers surveyed have indicated that they regarded teaching as highly stressful. Burnout and eventual ill-health result from high levels of stress due to overload, inordinate time demands, inadequate collegial relationships, large class sizes, lack of resources, isolation, fear of violence, role ambiguity, limited promotion opportunities, insufficient financial support, pressure from external parties (e.g. unions, education departments and school governing bodies), lack of community support, poor image of the profession and role ambiguity. These problems trouble education in many countries (Brissie, Hoover-Dempsey, & Bassler, 1988; Byrne, 1999; Friedman, 1995) and can easily lead to strain (ill-health). The latter occurs when environmental demands or constraints are perceived by a person to exceed his or her resources or capacities. Therefore, the conclusion that working as an educator may result in illness seems to be legitimate and is supported by much evidence (e.g. Kahn & Byosiere, 1992; Marmot, Bosma, Hemingway, Brunner, & Stansfield, 1997; Van Dick & Wagner, 2001). The next section provides an overview of factors that are relevant in work-related well-being.

**Work-related well-being**

**Burnout and work engagement.** In the helping professions, burnout refers to 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 and Jackson (1986) have conceptualized burnout as encompassing the components of emotional exhaustion, depersonalization, and reduced personal accomplishment. Recently, the concept of burnout has been expanded towards all types of professions and occupational groups. The publication of the Maslach Burnout Inventory-General Survey (MBI-GS) (Schaufeli, Leiter, Maslach, & Jackson, 1996) makes it possible to study burnout outside the service sector and to make comparisons among different occupational groups. Using this instrument, Jackson (2004) confirmed a three-factor model of burnout for educators consisting of exhaustion, mental distance (cynicism and depersonalization) and professional efficacy.

One could argue that exhaustion and mental distancing (cynicism and/or depersonalization) constitute the two key aspects of burnout (Schaufeli, 2003). Exhaustion refers to an employee’s incapability of performing because all energy has been drained, whereas mental distancing involves an employee’s unwillingness to perform because of an increased intolerance of any effort. Mental distancing can be seen as an adaptive mechanism to cope with excessive job demands and resulting feelings of exhaustion (Maslach, Schaufeli, & Leiter, 2001). However, when this coping strategy becomes habitual—as is the case in mental distance—it disrupts adequate task performance and becomes dysfunctional. In turn, this condition leads to an increase in job demands and exhaustion (Schaufeli, 2003).

Empirical findings indicate that exhaustion and mental distancing differ in various ways from lack of professional efficacy in work-related well-being (Schaufeli, 2003). First, relatively low correlations of professional efficacy are observed with exhaustion and mental distancing, while the latter two burnout dimensions are found to correlate relatively strongly (Lee & Ashforth, 1996). Second, mental distancing is found to develop in response to exhaustion, whereas professional efficacy seems to develop independently (Leiter, 1993). Third, professional efficacy is the burnout dimension which shows the weakest relationships with external variables (Lee & Ashforth, 1996). Some researchers have indeed argued that professional efficacy reflects a personality characteristic rather than a genuine burnout-component (Cordes & Dougherty, 1993; Schaufeli, 2003; Shirom, 1989).

According to Schaufeli and Bakker (2001), research showed that even when exposed to high job demands and working long hours, some individuals do not show symptoms of burnout. Instead, they seem to find pleasure in dealing with these stressors. From a positive psychology perspective (Seligman & Csikszentmihalyi, 2000), such individuals could be described as engaged in their work. The positive psychology paradigm helps to understand the relationship between work, and more specifically goal-directed, structured activity, and well-being (Kelloway & Barling, 1991). According to Nelson and Simmons (2003), meaningful work leads to eustress, which can promote engagement even in demanding conditions. Eustress reflects the extent to which cognitive appraisal of the situation is
seen to benefit or enhance an individual’s well-being. The focus on engagement as the positive antithesis of burnout promises to yield new perspectives on interventions to promote healthy perceptions, beliefs, and physical well-being (Salovey, Rothman, Detweiler, & Stewart, 2000) and to alleviate burnout (Maslach et al., 2001).

It is a simplistic approach to understanding eustress and distress to assume the presence of the positive attitudes toward work (e.g. work engagement) by observing the absence of its negative aspects (e.g. burnout) or vice versa. In line with the increased interest in positive psychology, burnout and work engagement (being aspects of work-related well-being) should be integrated into one model (Rothmann, 2003). A study of work-related experiences should include the entire continuum of work-related experiences, ranging from negative (burnout) to positive (work engagement) (see Maslach et al., 2001).

There is disagreement about the question of how engagement should be measured. Maslach and Leiter (1997) stated that engagement is adequately measured by reversing MBI scores. The authors of this article do not favor this option, because (as argued earlier) there is ample evidence that positive and negative aspects of work-related well-being have their own pathways and contingencies. In line with the argument that positive and negative aspects of work-related well-being are not necessarily each other’s opposites, Schaufeli, Salanova, González-Romá, and Bakker (2002a) propose to measure positive and negative work aspects independently. Exhaustion (low energy) and mental distancing (poor identification) are the main features of burnout that are assessed by the MBI (Schaufeli, 2003), while the positive aspects of vigor (high energy) and dedication (strong identification) can be measured by the Utrecht Work Engagement Scale (UWES; Schaufeli et al., 2002a). The first psychometric results with a measure that assesses these three characteristics of engagement—the Utrecht Work Engagement Scale—are encouraging (Schaufeli, Martínez, Marques-Pinto, Salanova, & Bakker, 2002b; Schaufeli et al., 2002a).

Organizational causes of well-being. The Job Demand-Resources (JDR) model assumes that two underlying psychological processes play a role in burnout (as one aspect of wellness at work): an effort-driven process in which excessive job demands lead to exhaustion and a motivation-driven process in which lacking resources lead to disengagement (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). Job demands are defined as tasks that have to be done, including physical, social and organizational aspects of the job that require sustained physical and mental effort. Quantitative job demands refer to the amount of work required and the available time frame, while qualitative workload involves employees’ affective reactions to their jobs (Cooper, Dewe, & O’Driscoll, 2001).

Job resources are those physical, psychological, social or organizational 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 (Demerouti et al., 2001). In terms of this definition, job characteristics, such as variety, independence, opportunities for learning and participation, opportunities to participate, role clarity, effective communication, advancement, remuneration and good relationships with supervisors and colleagues create psychological meaningfulness and safety for employees, which are needed to be engaged in one’s job (Frey, Jonas, & Greitemeyer, 2003; May, Gilson, & Harter, 2004).

Schaufeli and Bakker (2004) extended the JDR model by adding engagement, health impairment, and organizational withdrawal in their Comprehensive Burnout and Engagement (COBE) model. The COBE model assumes two job-related psychological processes, namely an energetic and a motivational process. The energetic process links job demands with health problems via burnout. The motivational process links job resources via work engagement with organizational outcomes. Job resources may play either an intrinsic motivational role (by fostering the employee’s growth, learning and development), or they may play an extrinsic motivational role (by being instrumental in achieving work goals). Schaufeli and Bakker (2004) confirmed the model in an empirical study in the Netherlands. Job demands were associated with exhaustion, whereas job resources were associated with work engagement. Burnout was related to health problems and turnover intentions, and it mediated the relationship between job demands and health problems, while work engagement mediated the relationship between job resources and turnover intentions.

Ill-health. There is research evidence that consistently links occupational stress with physical...
and psychological ill-health. Heart disease, 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). Barkhuizen, Rothmann, and Tytherleigh (2004), in their study of burnout of academic staff in a higher education institution in South Africa, 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.

Organizational commitment. Organizational commitment is defined as a state in which an employee identifies with an organization and its goals, is willing to exert effort on behalf of the organization and wishes to maintain his or her membership of the organization (Robbins, 1998).

Work engagement may be thought of as an antecedent to organizational commitment in that individuals who experience deep engagement in their jobs identify with their organizations. Based on interviews with engaged workers, Schaufeli et al. (2001) concluded that they have values and norms which are in line with those of their organizations. Disengagement, however, leads to a lack of organizational commitment (Aktouf, 1992).

Research aims and hypotheses

The aims of this study were as follows: (a) to determine the validity and internal consistency of the constructs in the measurement model, including work-related well-being (burnout and work engagement), job characteristics, ill-health and organizational commitment, and (b) to test a structural model of work-related well-being for educators in the North-west Province of South Africa.

Interest is in the prediction of a negative and a positive work outcome (ill-health and organizational commitment, respectively). Both kind of outcomes could have slightly different predictors. The hypotheses of this study are therefore as follows:

Hypothesis 1: Job demands and (lack of) job resources predict burnout, which in turn predicts ill-health.

Hypothesis 2: Job resources influence work engagement, which will affect organizational commitment.

Method

Research design

A cross-sectional survey design whereby a sample is drawn from a population at one time was used.

Participants

Approximately 28,000 educators are employed by the North-west Education Department. Seven school districts were randomly sampled from a group of 12 in the North-west Province of South Africa. Two school circuits were randomly sampled from each district. A circuit could consist of up to 40 schools.

Five thousand questionnaires were sent to all educators in the schools in randomly selected circuits, which represents 17.9 per cent of the educator population in the North-west Province; 1177 completed questionnaires were returned. Table I presents demographic characteristics of the participants. The sample consisted mainly of Setswana-speaking (45.88 per cent), females (69.48 per cent), who are married (46.25 per cent), possess a Grade 12 certificate and an Education Diploma/Bachelors Degree (43.68 per cent), who have not experienced a major stressful event over the last 6 months (56.69 per cent), who are members of a trade union (91.25 per cent), and who have a tenured position (89.42 per cent).

Instruments

An adapted version of the MBI-GS (Maslach, Jackson, & Leiter, 1996) was used to measure burnout. The following subscales of the MBI-GS were used: exhaustion (e.g. ‘I feel used up at the end of the workday’), and mental distance (e.g. ‘I have become less enthusiastic about my work’). All items are scored on a seven-point frequency rating scale ranging from 0 (never) to 6 (daily). A total of 13 items loaded significantly on two scales: exhaustion (five items) and mental distance (eight items). Jackson and Rothmann (2005a) confirmed the construct equivalence and
construct validity of these scales for educators of different language groups in South Africa. The internal consistencies (Cronbach’s 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 1 year were 0.65 (exhaustion), and 0.60 (cynicism). Storm and Rothmann (2003a) found support for the construct validity of the MBI-GS for employees of the South African Police Services.

The UWES was developed by Schaufeli et al. (2002a) as a measure of engagement. Only two of the three subscales of the UWES were used for the purposes of this study, namely vigor (six items; e.g. ‘I am bursting with energy in my work’), and dedication (five items; e.g. ‘I find my work full of meaning and purpose’). The items are scored on a frequency rating scale, varying from 0 (never) to 6 (daily). The alpha coefficients for the subscales varied between 0.68 and 0.91 (Schaufeli et al., 2002b). Recent studies using confirmative factor analysis demonstrated the factorial validity of the UWES (Schaufeli & Bakker, 2004; Schaufeli et al., 2002a). In a South African sample of police officers, Storm and Rothmann (2003b) obtained adequate alpha coefficients for the two subscales (0.78 for vigor and 0.89 for dedication). Working with a sample of emergency workers in South Africa, Naudé (2003) found values of 0.70 for vigor and 0.83 for dedication. Jackson (2004) found that the UWES shows construct equivalence and construct validity for educators in South Africa.

The JDR scale was developed by the authors to measure job demands and job resources for educators (Jackson & Rothmann, 2005b). The JDR scale consists of 42 items. The questions are rated on a scale ranging from 1 (never) to 4 (always). Three items per dimension were included in the final questionnaire for the following dimensions of the JDR scale: 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, participation, contact possibilities, remuneration, and career possibilities. These dimensions have been chosen based on literature on organizational causes of burnout and work engagement (Frey et al., 2003; Schaufeli & Enzmann, 1998).

A Health Questionnaire (Jackson & Rothmann, 2005b) was used to measure physical and psychological ill-health. The Health Questionnaire consists of 16 items arranged on two
subscales: The Health questionnaire is scored on a scale varying from 1 (never) to 4 (often). All items on the Physical Health subscale relate to physical symptoms of stress. The role of this subscale is to give insight into physical health. The items listed on the Psychological Well-being subscale are symptoms of stress-induced mental ill-health. Jackson and Rothmann (2005b) found alpha coefficients of 0.78 and 0.88 for the Physical and Psychological Health subscales, respectively.

An Organization Commitment Scale was administered to measure the individual’s attitude toward his or her organization. The scale includes questions relating to perceived levels of commitment to the organization and consists of seven items, which are scored on a scale varying from 1 (strongly disagree) to 6 (strongly agree). Examples of items are ‘I feel committed to this organization’ and ‘I am proud of this organization’.

Statistical analysis

First, descriptive statistics (e.g. means, standard deviations, skewness, and kurtosis) were used to explore the data. Exploratory factor analyses and Cronbach’s alpha coefficients were then computed to assess the validity and reliability of the constructs which were measured in this study. The theoretical model was tested in a path analysis, following a two-step procedure. Firstly, a simple principal components analysis was conducted on the constructs which form part of the measurement model, including burnout and work engagement, job characteristics, ill-health, and organizational commitment. The eigenvalues and scree plot were studied to determine the number of factors. In the second step either a principal components analysis with a direct Oblimin rotation was conducted if factors were related, or a principal component analysis with a Varimax rotation was used if the obtained factors were not related (Tabachnick & Fidell, 2001).

Structural equation modeling as implemented in AMOS (Arbuckle, 1999) was used to test the structural model of work-related well-being using the maximum likelihood method. Among the fit indices produced by the AMOS program is the Chi-square statistic ($\chi^2$), which is the test of absolute fit of the model. However, the $\chi^2$ value is sensitive to sample size. Therefore, additional goodness-of-fit indices such as the Goodness of Fit Index (GFI), the Adjusted Goodness of Fit Index (AGFI), the Normed Fit Index (NFI), the Comparative Fit Index (CFI), the Tucker–Lewis Index (TLI) and the Root Mean Square Error of Approximation (RMSEA) were used in this study.

Results

This was the first study in which the selected instruments were administered in a relatively large sample of South African educators. Therefore, it was decided to assess the psychometric properties of the instruments in this sample before testing the structural model.

Construct validity of the measuring instruments

Burnout and work engagement. A principal components analysis was conducted on two dimensions of burnout (i.e. exhaustion and mental distance) and work engagement (i.e. vigor and dedication). These factors represent two aspects of wellness, namely the energy dimension (ranging from exhaustion to vigor) and the identification dimension (ranging from mental distance to dedication). Two correlated factors ($r = 0.48$) were extracted, which explained 81.03 per cent of the variance. Next, a principal component analysis with a direct Oblimin rotation was conducted on these dimensions of burnout and engagement. The results showed that vigor (with a loading of 0.92) and dedication (0.92) formed the first factor, which was labeled Work Engagement. Exhaustion (0.88) and mental distance (0.87) formed the second factor, labeled Burnout.

Job demands and job resources. A principal component analysis that was carried out on the 42 items of the JDR scale showed four factors, which explained 40 per cent of the total variance. Next, a principal factor analysis with a direct Oblimin rotation was conducted on the 42 items. The first factor (labeled Organizational Support) included the following items: counting on colleagues when you come across difficulties in your work (loading = 0.50), asking colleagues for help if necessary (0.47), getting on well with colleagues (0.45), counting on supervisor when you come across difficulties (0.62), getting on well...
with your supervisor (0.63), feeling appreciated by your supervisor (0.68), knowing exactly what other people expect of you in your work (0.52), knowing exactly for what you are responsible (0.49), knowing exactly what your direct supervisor thinks of your performance (0.67), receiving sufficient information on the purpose of your work (0.65), receiving sufficient information on the results of your work (0.66), direct supervisor inform you about how well you are doing your work (0.69), kept adequately up-to-date about important issues within the school (0.56), ability to discuss work problems with your direct supervisor (0.65), ability to participate in decisions about the nature of your work (0.52), having a direct influence on your school's decisions (0.48) and having contact with colleagues as part of your work (0.42).

The second factor (labeled Growth Opportunities) included the following items: doing work that makes sufficient demands on your skills and capacities (0.47), having enough variety in your work (0.48), having a job which offers you opportunities for personal growth and development (0.50), having the feeling that you can achieve something (0.54), having a job which offers you the possibility of independent thought and action (0.52), having freedom in carrying out your work activities (0.50), and having influence in the planning of your work activities (0.41). The third factor (labeled Advancement) included the following items: living comfortably on your pay (0.76), thinking that you are paid enough for the work that you do (0.78), having the possibility to progress financially (0.78), and experiencing that your job gives you the opportunity to be promoted (0.46). The fourth factor (labeled Overload) included the following items: having too much work to do (0.64), working under time pressure (0.70), having to be attentive to many things at the same time (0.65), having to give continuous attention to your work (0.44), having to remember many things in your work (0.58), being confronted in your work with things that affect you personally (0.54), having contact with difficult learners or parents in your work (0.43), and being put in emotionally upsetting situations (0.58).

Subsequently, the four factors of the JDR scale were subjected to a second-order principal component analysis. Two factors, which explained 73.99 per cent of the variance, were extracted. Because an oblique rotation showed that the factors were not strongly related ($r = -0.18$), it was decided to use principal factor analysis with a Varimax rotation. Overload (loading = 0.96) formed the first factor (labeled Job Demands), while organizational support (0.84), growth opportunities (0.86), and advancement (0.66) formed the second factor (labeled Job Resources).

**Ill-health.** A principal component analysis that was carried out on the 16 items of the Health Questionnaire resulted in two factors, which explained 52.79 per cent of the variance. Next, a principal component analysis with a direct Oblimin rotation was conducted on the 16 items. The two correlated factors ($r = 0.55$) were labeled Physical Ill-health (seven items) and Psychological Ill-health (nine items).

**Organizational commitment.** A principal component analysis that was carried out on the seven items of the Organization Commitment Scale resulted in a one-factor solution, which explained 60.68 per cent of the total variance. The loadings varied from 0.63 to 0.88.

**Descriptive statistics**

Table II shows the descriptive statistics and alpha coefficients of the constructs. Acceptable alpha coefficients were obtained for all scales. All alpha coefficients were higher than the recommended lower limit of 0.70 (Nunnally & Bernstein, 1994). According to this standard, acceptable levels of internal consistency were obtained in the current study. Table II indicates that all the scores on the subscales are normally distributed except for dedication (negatively skewed) and organizational commitment (positively skewed).

To assess the levels of work wellness, the scores on exhaustion, mental distance, vigor and dedication were converted to so-called sten scores to make it possible to compare them to a national South African norm group (Rothmann, 2005). The sten scores, which have a mean of 5.5 and a standard deviation of 2 in the norm group, were as follows: exhaustion = 6.18; mental distance = 6.07; vigor = 5.92, and dedication = 6.34. It is clear that although the levels of negative aspects of work wellness (exhaustion and mental distance) are somewhat higher than average, the levels of positive aspects of work wellness (vigor and dedication) are also somewhat higher than average.
A model of work-related well-being

A model including the hypothesized relationships was tested in a path model (correlations are given in Table III). The latent variables included ill-health (consisting of two observed variables, namely physical ill-health and psychological ill-health), burnout (consisting of two observed variables, namely exhaustion and mental distance), work engagement (consisting of two observed variables, namely vigor and dedication), and job resources (consisting of three observed variables, namely growth opportunities, organizational support, and advancement). The hypotheses stated that job demands (overload) and a lack of job resources lead to burnout, which result in ill-health, while job resources lead to work engagement, which results in organizational commitment. However, a relatively strong correlation \( r = -0.48 \) was found between burnout and work engagement. The covariance between these two latent variables could have been modeled by allowing their error terms to correlate. However, this is a controversial technique (Byrne, 2001) and it is unlikely that such a strong correlation is due to methodological artifacts such as commonalities of response formats. Therefore, burnout and work engagement should not be modeled as an independent constructs. It was decided that their covariance would be modeled by adding a latent variable (called work attitude). As could be expected, burnout and work engagement had opposite loadings.

The results indicated an adequate model fit: \( \chi^2(36, N = 1177) = 219.35; \chi^2/df = 6.09; GFI = 0.97; AGFI = 0.94; CFI = 0.96; IFI = 0.96; TLI = \)

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**Table II. Descriptive statistics and Cronbach alpha coefficients of the measuring instruments.**

<table>
<thead>
<tr>
<th>Items</th>
<th>Mean</th>
<th>SD</th>
<th>Skewness</th>
<th>Kurtosis</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exhaustion</td>
<td>14.04</td>
<td>7.31</td>
<td>0.05</td>
<td>-0.75</td>
<td>0.79</td>
</tr>
<tr>
<td>Mental distance</td>
<td>14.95</td>
<td>8.99</td>
<td>0.52</td>
<td>-0.26</td>
<td>0.74</td>
</tr>
<tr>
<td>Vigor</td>
<td>17.70</td>
<td>4.79</td>
<td>-0.75</td>
<td>0.08</td>
<td>0.70</td>
</tr>
<tr>
<td>Dedication</td>
<td>24.27</td>
<td>5.76</td>
<td>-1.23</td>
<td>1.37</td>
<td>0.81</td>
</tr>
<tr>
<td>Overload</td>
<td>23.20</td>
<td>4.07</td>
<td>-0.14</td>
<td>-0.28</td>
<td>0.73</td>
</tr>
<tr>
<td>Organizational support</td>
<td>52.46</td>
<td>8.85</td>
<td>-0.37</td>
<td>-0.37</td>
<td>0.88</td>
</tr>
<tr>
<td>Growth opportunities</td>
<td>21.07</td>
<td>4.30</td>
<td>-0.31</td>
<td>-0.59</td>
<td>0.81</td>
</tr>
<tr>
<td>Advancement</td>
<td>11.82</td>
<td>3.86</td>
<td>0.84</td>
<td>0.42</td>
<td>0.75</td>
</tr>
<tr>
<td>Physical (ill)health</td>
<td>16.49</td>
<td>4.90</td>
<td>-0.01</td>
<td>-0.61</td>
<td>0.82</td>
</tr>
<tr>
<td>Psychological (ill)health</td>
<td>18.53</td>
<td>6.30</td>
<td>0.38</td>
<td>-0.40</td>
<td>0.90</td>
</tr>
<tr>
<td>Organizational commitment</td>
<td>17.54</td>
<td>3.69</td>
<td>-0.81</td>
<td>1.01</td>
<td>0.88</td>
</tr>
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</table>

Note: SD, standard deviation; α, Cronbach’s alpha coefficient.

**Table III. Correlation coefficients of the measurement instruments.**

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<th>9</th>
<th>10</th>
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<tbody>
<tr>
<td>1. Exhaustion</td>
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<tr>
<td>2. Mental distance</td>
<td>0.55†</td>
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<tr>
<td>3. Vigor</td>
<td>-0.39*</td>
<td>-0.39*</td>
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<tr>
<td>4. Dedication</td>
<td>-0.35*</td>
<td>-0.43*</td>
<td>0.69†</td>
<td>—</td>
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<tr>
<td>5. Overload</td>
<td>0.44*</td>
<td>0.32*</td>
<td>-0.20</td>
<td>-0.14</td>
<td>—</td>
<td>—</td>
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<tr>
<td>6. Organizational support</td>
<td>-0.24</td>
<td>-0.24</td>
<td>0.39*</td>
<td>0.37†</td>
<td>-0.12</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>7. Growth opportunities</td>
<td>-0.33*</td>
<td>-0.33*</td>
<td>0.53†</td>
<td>0.56†</td>
<td>-0.07</td>
<td>0.57†</td>
<td>—</td>
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<td>—</td>
</tr>
<tr>
<td>8. Advancement</td>
<td>-0.32*</td>
<td>-0.20</td>
<td>0.32*</td>
<td>0.26</td>
<td>-0.22</td>
<td>0.39*</td>
<td>0.41*</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>9. Physical ill-health</td>
<td>0.37*</td>
<td>0.28</td>
<td>-0.25</td>
<td>-0.19</td>
<td>0.28</td>
<td>-0.21</td>
<td>-0.21</td>
<td>-0.20</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>10. Psychological ill-health</td>
<td>0.49*</td>
<td>0.45*</td>
<td>-0.44*</td>
<td>-0.40*</td>
<td>0.33*</td>
<td>-0.31*</td>
<td>-0.36*</td>
<td>-0.25</td>
<td>0.64†</td>
<td>—</td>
</tr>
<tr>
<td>11. Organizational commitment</td>
<td>-0.30*</td>
<td>-0.33*</td>
<td>0.46*</td>
<td>0.47*</td>
<td>-0.15</td>
<td>0.43*</td>
<td>0.47*</td>
<td>0.30*</td>
<td>-0.21</td>
<td>-0.33*</td>
</tr>
</tbody>
</table>

*Correlation is practically relevant and has a medium effect size (0.30 < |r| < 0.50).
†Correlation is practically relevant and has a large effect size (|r| > 0.50).

Note: All correlations are statistically significant (p < 0.01).
0.94; RMSEA = 0.06. Although the chi square statistic is highly significant and the ratio of the chi square to the degrees of freedom is high (above the criterion of 5), all other statistics pointed fell within widely accepted margins of good fit. As can be seen in Figure 1, the path from job demands to burnout (consisting of exhaustion and mental distance) was statistically significant. Therefore, perceived job demands contribute to burnout. Job resources (including organizational support, growth opportunities and advancement opportunities) had a positive impact on work wellness, which is a second-order factor, comprising of burnout (negative loading) and engagement. The first hypothesis stating that job demands would predict burnout while job resources would predict work engagement, was supported, burnout mediated the relationship between job demands (overload) and the output variables (i.e. ill-health and organizational commitment). Work engagement mediated the relationship between job resources and organizational commitment. A close look at Figure 1 reveals that the negative outcome, ill-health, is mainly predicted by job demands and burnout, whereas the positive outcome, organizational commitment, is mainly predicted by job resources. So, it seems that there are two lines of influence at work: a negative line starting from job demands and a positive one starting from job resources. The negative input has a major impact on the negative output; similarly, the positive input has a major impact on the positive output. The crossover influence of the two systems is limited.

**Discussion**

The study set out to test a structural model of work-related well-being of educators in South Africa, using a cross-sectional survey design. A good fit was found for a model in which burnout mediated the relationship between job demands/lack of job resources and ill-health, while work engagement mediated the relationship between job resources and organizational commitment of educators. Burnout had a small negative impact on organizational commitment.

Exploratory factor analysis of the work-attitude variables resulted in two factors. The first factor represented burnout, amounting to incapability (exhaustion) and unwillingness (mental distance) to work. The second factor represented work engagement, characterized by the capability (vigor) and willingness (dedication) to work.

![Figure 1. Maximum likelihood estimates for the model of work-related well-being, N = 1177 (standardized solution). Note: All coefficients are significant (p < 0.01).](image-url)
The correlation between the positive and negative factors was $-0.48$. It can be concluded that work attitude comprises of two related, though distinct aspects, namely one negative aspect (burnout) and one positive aspect (work engagement) (cf. Schaufeli, 2003).

Two organizational antecedents of burnout and work engagement were found, namely job demands and job resources. Job demands included pace and amount of work, mental load, and emotional load. Job resources included three categories, namely organizational support (with resources needed to attain the organization’s objectives such as role clarity, information, participation, relationships with colleagues and the supervisor, and contact possibilities), growth opportunities (i.e. task variety, opportunities to learn, and independence), and advancement (i.e. resources needed to perceive that one is advancing in life such as remuneration and career possibilities). As hypothesized in the COBE model (Schaufeli & Bakker, 2004), job resources may play either an intrinsic motivational role (by fostering the employee’s growth, learning, and development) or an extrinsic motivational role (by being instrumental in achieving work and personal goals).

Regarding the negative aspects of work-related well-being, the structural model showed that job demands lead to burnout (i.e. exhaustion and mental distancing). As hypothesized in the JDR model (Demerouti et al., 2001), excessive job demands lead to exhaustion (and incapability to perform) and mental distance (unwillingness to perform). Furthermore, burnout mediated the relationship between job demands and physical and psychological ill-health. The chain of negative high job demands, burnout, and ill-health can lead to an incapability and unwillingness of educators to perform. Regarding the positive aspects of work-related well-being, the structural model showed that job resources lead to work wellness (i.e. low exhaustion and mental distance, and high vigor and dedication). Job resources, such as organizational support, growth, and career opportunities have strong effects on work-related well-being.

The results of this study are in line with the COBE model (Schaufeli & Bakker, 2004), which assumes two related, though clearly distinct psychological processes to determine work wellness, namely an energetic and a motivational process. The energetic process links job demands with health problems via burnout. The motivational process links job resources via work engagement with organizational commitment.

The present study has certain limitations. First, the research design was a cross-sectional survey design, which makes it difficult to prove causal relationships even when, as done here, of advanced analytical procedures such as structural equation modeling techniques are employed. Second, the results were obtained solely by self-report measures. This may lead to a problem commonly referred to as ‘common method variance’ which could give rise to an overestimation of the correlations studied. Third, this study focused on the total sample of educators. The work-related well-being of primary and secondary school educators in South Africa differs (Jackson & Rothmann, 2005b). Indeed, Rothmann (2005) showed that the secondary school educators was the third highest risk group in terms of poor work-related well-being in South Africa. Fourth, the relatively low response rate (17.9 per cent) was a limitation. Though not uncommonly low, such a low response rate challenges the external validity of the findings.

**Recommendations**

Primary and secondary educational institutions should attend to the work-related well-being of their staff. The participants showed a combination of relatively high levels of both positive and negative work aspects. If sustained, this combination could easily lead to burnout and ill-health. This study clearly shows that school educators might be an important target for interventions to promote work-related well-being (Rothmann, 2005). The results of this study suggest that interventions should be aimed at both the reduction of job demands and the increase of job resources. These institutions should aim at decreasing the workload of educators, which can be expected to cause a decrease in experienced exhaustion (incapability) and mental distance (unwillingness). Interventions aimed at increasing job resources will lead to more vigor and dedication. Specific areas of intervention include management, employee relations, rewards and job design.

Longitudinal research regarding causal relationships between burnout, work engagement, health and job characteristics at educational institutions in South Africa should be undertaken.
Work-related well-being

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References


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