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An adapted model of burnout for educators in South Africa

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The objectives in this study were to determine the psychometric properties of an adapted version of the Maslach Burnout Inventory (General Survey (MBI-GS) for South African educators in different language groups and to determine the differences between burnout in different demographic groups. A cross-sectional survey design was used. Stratified random samples (N = 1 170) of educators in the North West Province in South Africa were taken. An adapted version of the MBI-GS and a biographical questionnaire were administered. Structural equation modelling confirmed a three-factor model of burnout, consisting of Exhaustion, Mental Distance, and Professional Efficacy. All three factors showed acceptable internal consistencies and construct equivalence for two language groups. The results showed that practically significant differences exist between aspects of burnout in demographic groups.

Introduction

The World Competitive Report continues to rank South Africa poorly in respect of Human Resource Management and Development (Pons & Daele, 2002). The World Economic Forum (2002) ranked South Africa in the 34th position on a list of 75 countries in 2001. The South African education system accommodates, amongst other things, more than 12.3 million learners, 29 386 primary and secondary schools, and 375 000 educators. A number of initiatives have been taken since 1994 to improve education in the country, such as a significant increase in education expenditure from R31.8 billion to R51.1 billion in 2000 (Department of Education, 2001). However, racism, violence and other manifestations of antisocial values and behaviour are evident in some schools. The role of educators in public schools is important in eradicating the above problems, but there are a number of individual and situational factors that determine the effectiveness of educators, including burnout.

A report on the employment and working conditions of educators as far back as 1981 concluded that job-related stress was a growing problem facing educators. The executive summary of the 1995 Sectoral Activities Programme working paper of the salaried employees' and professional workers' branch identified burnout as a major problem in the teaching fraternity (ILO, 1995). Research has shown that burnout, job dissatisfaction, depression, anxiety and physical health consequences are prominent in today's educators (Pomaki & Anagnostopoulou, in press). These negative outcomes are also evident in the South African education system. Recent newspaper headings have identified the recruitment of new educators and their retention as a major challenge for the Department of Education — "Most SA teachers ready to quit" (Citizen, 1999); "Many good teachers have quit in despair because of the OBE system" (Star, 2001); "Profoundly sad so many teachers are quitting" (Citizen, 2002); "Stress takes big toll on teachers" (Pretoria News, 2002). Therefore, it seems important and relevant to investigate the burnout of South African educators.

The term 'burnout' was first introduced in the late sixties and early seventies of the past century in the United States as a metaphor to describe a 'state or process of mental exhaustion' (Schaufeli, 2003). The Maslach Burnout Inventory (MBI) dominates the field of burnout research. The model underlying the MBI holds that burnout is a multidimensional syndrome that consists of three cognitive/affective components: emotional exhaustion; depersonalisation or becoming callous towards and withdrawn from clients or colleagues; and a sense of lack of personal accomplishment at work. In its strongest form the model maintains that the entire component parts of the syndrome are necessary and relevant for defining burnout (Leiter, 1988a).

Critics of the burnout model underlying the MBI (Garden, 1991; Shirom, 1989) have suggested that a uni-dimensional concept of burnout consisting of emotional and physical exhaustion is a better alternative on both logical and empirical grounds. It emerges as the first factor in factor analysis of the scale (Maslach & Jackson, 1981) and it also corresponds to other concepts in stress management literature, whereas depersonalisation in particular does not (Garden, 1987; 1989; 1991). Depersonalisation and lack of personal accomplishment are less likely to correlate with work-related causes of burnout (Shirom, 1989).

These arguments are basically in agreement with those offered by Salanova, Llorens, García-Renedo, Burriel, Bresó and Schaufeli (in press), who argue that exhaustion is the basic individual stress component of the syndrome which comes closest to an orthodox job strain variable (Maslach, 1993), whereas personal accomplishment is akin to the concept of efficacy beliefs (Bandura, 1999). This leaves depersonalisation as the most innovative component of burnout. Salanova *et al*. (in press) further argue that the validity of depersonalisation has been questioned from the outset, because it measures several distinct attitudes, including distancing, hostility, rejection, and unconcern (Garden, 1987). Therefore the internal consistency of the sub-scale is often found to be relatively low, compared to other sub-scales of the MBI that measure emotional exhaustion and personal accomplishment (Lee & Ashforth, 1996).

The association of depersonalisation and lack of personal accomplishment with the burnout construct represents an artefact of the human service sample used to create the MBI scale. Both the depersonalisation and accomplishment scales of the MBI are made up, in part, of items assessing attitudes and feelings of human service providers about the recipients of their service (Garden, 1987; 1989). In measuring burnout of human service professionals (such as educators) the inclusion of these dimensions becomes a necessity.

Burnout was first observed and originally almost entirely studied as an occupational issue for people working in service professions. Schaufeli and Enzmann (1998) calculated that the largest single occupational groups studied are teachers (22%), nurses (17%) and social workers (7%). However, years of research and practice suggested that burnout seems not to be a typical syndrome associated with the helping professions. Although the study of burnout was initially restricted to the helping professions, it was later broadened and defined as a crisis in one's relationship with work in general and not necessarily as a crisis in one's relationship with people at work (Maslach, Schaufeli & Leiter, 2001). The three burnout dimensions in the Maslach Burnout Inventory — the Educator Survey (MBI-ES) (i.e. emotional exhaustion, depersonalisation and personal accomplishment) — were redefined and an alternative version of the MBI — the General Survey (MBI-GS) — was developed that can also be used outside the human services (Schaufeli, Leiter, Maslach & Jackson, 1996). Exhaustion as operationalised in the MBI-GS refers to severe fatigue irrespective of its cause; cynicism reflects an indifferent or distant attitude towards work instead of other people; and lack of professional efficacy encompasses both social and non-social aspects of occupational accomplishment.

Except for the substitution of "students" with "recipients" the basic difference between the two versions is that the cynicism scale (MBI-GS) replaced the depersonalisation scale (MBI-ES). These changes are also consistent with the previously mentioned conceptua-

lisation of Leiter (1988a), who considers burnout as a syndrome consisting of depersonalisation or (cynicism) adopting a callous attitude towards and being withdrawn from clients or colleagues. The questions that arise from these developments in burnout research include the following: Are cynicism and depersonalisation the same dimensions of burnout? Are they different components of the same dimension? Is it possible to experience both (neither, either) depersonalisation and (nor, or) cynicism because one relates to negative attitudes against recipients of service whereas the latter refers to a negative attitude towards one's work in general if one is a human service professional?

Another question that may arise because of other developments in burnout research, is whether mean scores can be compared across various groups without testing equivalence of the construct. Such information is psychometrically critical since variance of the instrument across groups reduces the credibility of findings from substantive multi-group research that has assumed equivalent factorial structure (Byrne, 1993). South Africa is a multicultural society and it cannot be taken for granted that scores obtained in one culture can be compared across cultural groups. Before comparing scores across cultural groups, the construct equivalence of measuring instruments should be tested (Van de Vijver & Leung, 1997). Without a test of equivalence it is impossible to know to what extent scores or constructs underlying an instrument can be compared across cultures.

The lack of empirical research that systematically investigates educator burnout in South Africa is a concern. The limitations of burnout research in South Africa include poorly designed studies, a lack of sophisticated statistical analyses and poorly controlled studies (Rothmann, 2003). The objectives of this study were to determine the psychometric properties of an adapted version of the Maslach Burnout Inventory — General Survey (MBI-GS) for educators in different language groups and to determine the differences between the burnout of different demographic groups.

The Maslach Burnout Inventory

Practically speaking almost all burnout research uses the MBI, which originally had two versions, one for employees working in the human services (Human Services Survey — HSS) and one for educators (Educators Survey — ES). The main difference is that 'recipients' in the former is replaced by 'students' in the latter The MBI-HSS/ES assesses three burnout dimensions: emotional exhaustion; depersonalisation (a callous, indifferent and cynical attitude towards recipients or learners); and personal accomplishment (reversed). In fact, these represent an energetic (e.g. feeling used up), attitudinal (e.g. being cynical) and evaluative (e.g. doubting one's competence) component, respectively (Schaufeli, 2003). One would anticipate that the factorial structure and the underlying constructs of the MBI-HSS and MBI-ES should be comparable — an expectation that was confirmed in a paper by Gold, Batchelor and Michael (1989) with a sample of 147 fifth-year students in a teacher training program at the elementary school level (Holland & Michael, 1994). However, the psychometric results were rather disappointing when slightly adapted versions of the MBI-HSS/ES were used outside the intended professions ("people work") (Boles, Dean, Ricks, Short & Wang, 2000).

Most exploratory factor analyses of the MBI have yielded three burnout factors representing emotional exhaustion, depersonalisation and reduced personal accomplishment for human service professionals in general (Green & Walkey, 1988) and for educators in particular (Gold, Bachelor & Michael, 1989; Pierce & Molloy, 1989). Three confirmatory factor analyses of the MBI also found a three-factor solution to be optimal (Gold *et al.*, 1989). Nonetheless, some researchers have concluded that it has a two-factor (Brookings, Bolton, Brown & McEvoy, 1985) or four-factor (Powers & Gose, 1986) structure.

The apparent need for an instrument that measures burnout in contexts other than the service profession was met by the introduction of the Maslach Burnout Inventory — General Survey (MBI-GS) (Maslach, Jackson & Leiter, 1996). The MBI-GS assesses parallel dimensions (Exhaustion, Cynicism and Professional Efficacy) to those contained in the original MBI, except that the items do not explicitly refer to working with people (Schaufeli *et al.*, 1996), but to work in general. Like the original MBI, the psychometric properties of the MBI-GS are encouraging. More particularly, the hypothesised three-factor structure of the MBI has been confirmed in South African studies (Naudé, 2003; Rothmann, Jackson & Kruger, 2003; Storm & Rothmann, 2003). The only more or less systematic exception to the supremacy of the three-factor structure is a two-factor model in which exhaustion and depersonalisation collapse into one factor which fits the data better (or equally well) (Holland, Micheal & Kim, 1994). Therefore, Green, Walkley and Taylor (1991) have called exhaustion and depersonalisation the 'core of burnout'. A systematically negative finding with the use of the MGI-GS is that one particular item (item 13: "I just want to do my job and not be bothered") seems to be unsound and does not load sufficiently on the cynicism factor (Storm & Rothmann, 2003).

The broadening of the burnout concept with the introduction of the MBI-GS changed the meaning of the depersonalisation dimension in a fundamental way. By definition, depersonalisation involves other people so that its meaning cannot be broadened beyond the social relationship in which it occurs, whereas cynicism, as operationalised by the MBI-GS reflects an indifferent or distant attitude towards work instead of other people. This problem can be overcome by viewing depersonalisation as a special case of mental distance. That is, where depersonalised human service professionals exhibit a psychological distance towards the recipients of their service, cynical non-human service employees show a similar psychological distance regarding their work environment. In other words the target of mental distance differs: recipients in the case of human service professionals and the job itself in the case of non-human service employees (Salanova *et al.*, in press).

This argument is consistent with the idea of Dean, Brandes and Dharwadkar (1998), who argue that organisational cynicism has different targets: the work organisation at large, organisational change, the work environment, and the persons at the job (i.e. other employees and recipients). These last two types of cynicism correspond with MBI-depersonalisation and MBI-cynicism, respectively. Recently, in a study among customer services representatives, Abraham (2000) discriminated empirically between these types of organisational cynicism and showed that each of them was related in a slightly different way to several outcomes such as job satisfaction, organisational commitment and organisational citizenship behaviour. Or put differently, it seems that depersonalisation and cynicism, as measured with the MBI, are distinct constructs, yet they can be considered manifestations of the broader concept of organisational cynicism.

From a theoretical point of view one could argue that exhaustion and mental distance (cynicism and depersonalisation) constitute the two key aspects of burnout. Exhaustion refers to an incapability to perform because of drained energy, whereas mental distance indicates that the employee is no longer willing to perform because of an increased intolerance to any effort. Mental distancing or psychological withdrawal from the task can be seen as an adaptive mechanism to cope with excessive job demands and resultant feelings of exhaustion. However, when this coping strategy becomes a habitual pattern, as in cynicism or depersonalisation, the person becomes dysfunctional because it disrupts adequate task performance.

A recent study by Salanova *et al.* (in press), showed that it is possible empirically to discriminate between cynicism and depersonalisation. Therefore it should not be assumed that depersonalisation is measured when the MBI-GS is used for the assessment of educator burnout. As discussed earlier, depersonalisation, a concept that involves poor social relationships (with recipients of service rendered by human service professionals such as educators), should be part of the experiences of an educator suffering from burnout. Seen from this perspective, it could be imagined that it is possible for an educator to

be depersonalised as well as cynical or neither depersonalised nor cynical, or even either depersonalised or cynical. Practically speaking, educators could have a negative and even callous attitude towards the teaching profession, the management of the school where he/she teaches or even the department of education, and still give their best to their learners. It is also possible that an educator could have a negative and even callous attitude towards a certain learner or a whole class for that matter, as a result of learner misconduct, and still be dedicated to the job, the school and the teaching profession.

To date, an empirical test of the distinctiveness of MBI-depersonalisation and MBI-cynicism in relation to both other burnout dimensions has not yet been conducted (Salanova *et al*., in press). In addition to the problematic fit of particular items, several limitations can be noted with respect to previous validity research in general, as it relates to educators in South Africa:

- No studies have been conducted empirically to discriminate between depersonalisation and cynicism as experienced by educators in South Africa;
- Given the South African multicultural environment, the possibility of different perceptions of item content can lead to different factorial structures for the various demographic groups in the South African teaching fraternity;
- The factorial structure of the adapted burnout model for educators has not been cross-validated with independent samples using a simultaneous analysis of the data in South Africa.

In the past decades, many different factors have been found to be related to burnout in one way or the other. Most studies were cross-sectional in nature. Burnout has been associated with higher levels of education (Maslach, Leiter & Jackson, 1996). This is quite remarkable since most stress-related problems seem more prevalent among workers with low status and poor education (Fletcher, 1988). It also seems as if the type of school in which educators find themselves plays a role in developing burnout. Byrne (1993) found that intermediate school educators experience higher levels of exhaustion compared to elementary and secondary school educators.

Singles have an increased risk of burn-out compared to those who are living with a partner (Maslach & Jackson, 1985). It is claimed that social support from partners might alleviate stress (Schaufeli & Buunk, 2002). Burnout seems to occur most frequently — at least in the USA — among young employees aged under 30 or 40, who have relatively little work experience (Maslach, Jackson & Leiter, 1996). However, this finding must be interpreted with some caution because of selective dropout. It is quite likely that employees who are "burned out" have left their jobs and that the survivors, who consist of the older employees and the experienced, are relatively healthy — the so-called "healthy worker effect" (Karasek & Theorell, 1990). However, especially in European countries, like the Netherlands, burnout is more prevalent in older age groups (Schaufeli & Van Dierendonck, 2000). Probably European employees are more reluctant to change jobs because of cultural values, and social security systems restrict labour market mobility more than in other countries (Schaufeli & Buunk, 2002).

Initially, it was claimed that women reported higher burnout levels than men (Etzion & Pines, 1986). Greenglass (1991), however, has pointed out that gender is often confounded with occupational role and hierarchical positions. For instance, compared to men, women less often occupy supervisory roles in organisations and therefore they have less access to job-related rewards and high income, social status and autonomy. When these confounding variables are taken into account, no significant gender differences in burnout are observed, except for depersonalisation. It is consistently found that males report higher depersonalisation scores than females, a finding that is in line with other gender differences such as higher prevalence of aggression among males, and higher interest in the nurturing role among females (Ogus, Greenglass & Burke, 1990).

Recently, Schaufeli and Enzmann (1998) re-analysed the findings of the meta-analysis of Lee and Ashforth (1996), adding 15 more studies on the relationships of burnout with job satisfaction, organisational commitment and intention to leave. They found that job satisfaction correlates comparatively highly with all three burnout dimensions but most highly with depersonalisation (27% shared variance), followed by exhaustion and reduced personal accomplishment (20% and 16% shared variances). Although less strongly so than job satisfaction, organisational commitment consistently correlates negatively with emotional exhaustion and depersonalisation (16% shared variance). The relationship with reduced personal accomplishment is clearly weaker (5% shared variance). Similar results are found with respect to the intention to quit, which shares 20% variance with emotional exhaustion, 12% with depersonalisation, and 6% with reduced personal accomplishment.

The above discussion leads to the following hypotheses:

H_1: Burnout (as measured by the MBI-GS and depersonalisation scale of the MBI-ES) is a three-dimensional construct (cynicism and depersonalisation collapse into one mental distance construct together with exhaustion and a lack of professional efficacy to form burnout). The scales of the adapted MBI-GS show acceptable internal consistency.

H_2: Burnout is an equivalent construct for educators of different language groups in the North West Province of South Africa.

H_3: Significant differences exist on the burnout dimension scores of educators based on biographical characteristics.

Method

Research design

A cross-sectional survey design was used to reach the objectives of this research.

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 (South Africa). Two school circuits were randomly chosen from each district. A circuit could consist of up to 40 schools. A total of five thousand (representing 17.9% of the population) questionnaires were sent to all educators in the schools in randomly selected circuits. A total of 1 300 completed questionnaires were returned. Only 1 177 of the questionnaires were used for analysis of the data, with 123 not useable because of missing data. This represented a 23.54% response rate. Table 1 presents some of the characteristics of the participants.

Table 1 Characteristics of the participants

Item	Category	Percentage
Type of school	Primary school	61.20
	Intermediate school	5.60
	Combined school	2.90
	Secondary school	30.20
Position	Post level 1 —- Teacher	76.28
	Post level 2 — Head of Department	15.06
	Post level 3 — Deputy Principal	6.66
	Post level 4 — Principal	1.64
Education	Grade 12 + Education Diploma	33.16
	Grade 12 + Higher Education Diploma or B. Degree	45.68
	Grade 12 + Education Diploma + Honours Degree	18.51
	Grade 12 + Education Diploma + Master's Degree	2.64
Gender	Male	30.52
	Female	69.48

The sample consisted mainly of permanently appointed (89.42%) Setswana-speaking (45.88%) females (69.48%), who were married (46.25%), possessed a Grade 12 certificate and an education diploma/bachelor's degree (45.68%), who had not experienced a major stressful

event over the last six months (56.69%) and who were members of a trade union (91.25%).

Procedure

The Director-General of the North West Education Department gave permission to conduct the study. Meetings were convened with the management teams in the districts that had been randomly selected to be included in the sample. The role of the district manger was to provide dates of the school principal meetings, where presentations where made regarding the objective of the study. Principals were provided with questionnaires to hand out among their staff. Envelopes with stickers were also included in this package to ensure confidentiality. The completed questionnaires were to be given to the principal, who then left them with the circuit manager at the circuit office for collection by the researchers.

Measuring instrument

The Maslach Burnout Inventory — General Survey (MBI-GS) was used to measure the Exhaustion (5 items), Cynicism (5 items) and Professional Efficacy (6 items) dimensions of burnout. The Depersonalisation (5 items) dimension of the Maslach Burnout Inventory — Educator Survey (MBI-ES) was also included in the questionnaire. On this scale the word 'recipients' (MBI-GS), used in the original scale was replaced by 'student' (ES). Responses to 21 items had to be given on a six point scale varying from 0 (never occurs) to 6 (occurs every day). High scores on Exhaustion and Cynicism/Depersonalisation, and low scores on Professional Efficacy are indicative of burnout. Internal consistencies (Cronbach alpha coefficients) for the MBI-GS reported by Maslach *et al*. (1996) varied from 0.87 to 0.89 for Exhaustion, 0.73 to 0.84 for Cynicism and 0.76 for Professional Efficacy. An internal consistency of 0.79 was reported for Depersonalisation as measured by the MBI-ES (Maslach & Jackson, 1986).

A biographical questionnaire was developed to gather information about the demographic characteristics of the subjects. Other information that was gathered included type of school, job level, age, gender, considerations to quit and possession of the right equipment to teach effectively.

Statistical analysis

The statistical analysis was carried out with the SAS program (SAS Institute, 2000). Cronbach alpha coefficients and inter-item correlation coefficients were used to assess the reliability and validity of the MBI-GS (Clark & Watson, 1995). Descriptive statistics (e.g. means, standard deviations, skewness, and kurtosis) were used to analyse the data.

In order to test the factorial validity and construct equivalence of the MBI-GS for different language groups, structural equation modelling (SEM) methods were used with the maximum likelihood method of the AMOS program (Arbuckle, 1999). According to Jöreskog (1971), all tests of invariance across groups should begin with a global test of the equality of their covariance structures. In testing for these equivalencies, sets of parameters are tested in a logical order and by increasing restrictions in every step. The sets of parameters that are of most interest regarding group variances are: (a) factor loading paths, (b) factor variances/covariances and (c) structural regression paths, whilst, according to Bentler (1995), equality of error variances and covariances is generally the least important hypothesis to test, due to the restrictive nature of these tests.

The general procedure for testing hypotheses related to group invariance starts with scrutiny of the measurement model. The pattern of factor loadings for each observed measure should be tested first for its equivalence across the groups. Once the group invariances have been identified, these parameters are constrained equally, while subsequent tests of the structural parameters are conducted. While testing each new set of parameters, those known to be group-invariant are equally constrained, thus testing a series of increasingly restrictive hypotheses in an orderly sequence of analytical steps (Byrne, 2001). Before the factorial invariance can be tested as described above, it is important to consider a baseline model for each group separately, which best fits the data from the perspectives of both parsimony and substantive meaningfulness.

Hypothesized relationships are tested empirically for goodness of fit with the sample data. The χ^2 statistic and several other goodness-of-fit indices summarise the degree of correspondence between the implied and observed covariance matrices (Jöreskog & Sörbom, 1993). Researchers have addressed the χ^2 limitations by developing goodness-of-fit indices that take a more pragmatic approach to the evaluation process. The following goodness-of-fit indices which are recommended by Byrne (2001) were used in this study: a) The χ^2/degrees of freedom ratio (CMIN/DF); b) The standardized RMR; c) the Goodness of Fit Index (GFI); d) The Adjusted Goodness-of-Fit Index (AGFI); e) the Normed Fit Index (NFI); f) the Comparative Fit Index (CFI); g) the Tucker-Lewis Index (TLI), and h) the Root Mean Square Error of Approximation (RMSEA).

Multivariate analysis of variance (MANOVA) was used to determine the significance of differences in the burnout (exhaustion, cynicism and professional efficacy) of the various demographic groups. MANOVA tests whether mean differences among groups on a combination of dependent variables are likely to have occurred by chance (Tabachnick & Fidell, 2001). In MANOVA a new dependent variable that maximises group differences is created from the set of dependent variables. One-way analysis is then performed on the newly created dependent variable. Wilk's lambda was used to test the significance of the effects. Wilk's lambda is a likelihood ratio statistic that tests the likelihood of the data under the assumption of equal population mean vectors for all groups against the likelihood on the assumption that the population mean vectors are identical to those of the sample mean vectors for the different groups. When an effect was significant in MANOVA, one-way analysis of variance (ANOVA) was used to discover which dependent variables had been affected. Because multiple ANOVAs were used, a Bonferroni type adjustment was made for inflated Type 1 error. Tukey tests were done to indicate which groups differed significantly when ANOVAs were done.

T tests were used to determine differences between the groups in the sample. Effect sizes (Cohen, 1988; Steyn, 1999) were used in addition to statistical significance to determine the significance of relationships. Effect sizes indicate whether obtained results are practically significant. A cut-off point of 0.50 (medium effect) (Cohen, 1988) was set for the practical significance of differences between means.

Results

Hypothesised model

The following hypothesised models of an adapted version of the MBI-GS were initially tested:

- Model 1: A 1-factor model consisting of 21 items (16 items of the MBI-GS and 5 items of the Depersonalisation sub-scale of the MBI-ES).
- Model 2: A 3-factor model consisting of Exhaustion (5 items), Mental Distance (10 items) and Professional Efficacy (6 items).
- Model 3: A 4-factor model consisting of Exhaustion (5 items), Cynicism (5 items), Depersonalisation (5 items) and Professional Efficacy (6 items).

Results of the structural equation analyses for the four models appear in Table 2.

Statistically significant (χ^2 values of 1 174.452 (df = 189; $p <$ 0.01) and 1 363.42 (df = 189; $p < 0.01$) for the Afrikaans and the African language groups, respectively, revealed a poor overall fit of the 1-factor model to the data. Model 1 was also not good from a practical perspective. GFI, NFI, TLI and CFI values lower than 0.90 and an RMSEA value higher than 0.08 is indicative of failure to confirm the hypothesised model.

Table 2 shows that Model 2 fits the data better for the Afrikaans sample (χ^2 = 593.08; df = 186, $p < 0.01$) and the African language sample (χ^2 = 745.22; df = 186, $p < 0.01$), although the fit statistics

Table 2 Goodness-of-fit statistics for hypothesised MBI-GS models

Model	Language	χ^2	χ^2/df	RMR	GFI	AGFI	NFI	TLI	CFI	RMSEA
Model 1	Afrikaans	1 174.45	6.21	0.11	0.69	0.63	0.60	0.60	0.64	0.12
1-factor	African	1 363.42	7.21	0.09	0.81	0.77	0.60	0.60	0.64	0.09
Model 2	Afrikaans	593.08	3.19	0.07	0.85	0.82	0.80	0.83	0.85	0.08
3-factor	African	745.22	4.01	0.06	0.91	0.89	0.78	0.80	0.83	0.06
Model 3	Afrikaans	481.46	2.63	0.07	0.89	0.86	0.84	0.88	0.89	0.07
4-factor	African	699.06	3.82	0.06	0.91	0.89	0.80	0.82	0.84	0.06
Model 4	Afrikaans	481.53	2.62	0.07	0.89	0.86	0.84	0.88	0.89	0.07
3-factor	African	699.08	3.80	0.06	0.91	0.89	0.80	0.82	0.84	0.06

Table 3 Goodness-of-fit statistics for the new hypothesised 3 factor MBI-GS model

Model	Language	χ^2	χ^2/df	RMR	GFI	AGFI	NFI	TLI	CFI	RMSEA
Model 4	Afrikaans	481.53	2.62	0.07	0.89	0.86	0.84	0.88	0.89	0.07
3-factor	African	699.08	3.80	0.06	0.91	0.89	0.80	0.82	0.84	0.06
Model 4.1	Afrikaans	410.99	2.49	0.07	0.90	0.87	0.86	0.90	0.91	0.06
Delete 13	African	595.41	3.33	0.06	0.93	0.91	0.82	0.84	0.86	0.06
Model 4.2	Afrikaans	338.00	2.30	0.06	0.91	0.89	0.88	0.91	0.93	0.06
Delete 18	African	490.57	3.34	0.06	0.94	0.92	0.84	0.87	0.88	0.05
Model 4.3	Afrikaans	313.56	2.15	0.06	0.92	0.90	0.89	0.92	0.94	0.06
Error 9 & 10	African	470.67	3.22	0.05	0.94	0.92	0.85	0.87	0.89	0.05
Model 4.4	Afrikaans	310.05	2.14	0.06	0.92	0.90	0.89	0.92	0.94	0.05
Error 14 & 15	African	417.04	2.88	0.0508	0.95	0.93	0.87	0.89	0.91	0.05

indicated a relatively poor fit of the model to the data (e.g. the GFI, NFI, TLI and CFI values were all lower than 0.90). Models 3 and 4 fitted the data even better for both groups. However, both models fitted the data relatively poorly. For the Afrikaans sample significant differences were obtained for both Model 3 ($\chi^2 = 481.46$; df = 183, $p < 0.01$) and Model 4 ($\chi^2 = 481.53$; df = 184, $p < 0.01$). For the African language sample significant differences were also obtained for both Model 3 ($\chi^2 = 699.06$; df = 183, $p < 0.01$) and Model 4 ($\chi^2 = 699.08$; df = 184, $p < 0,01$). Also, the fit indices indicate relatively poor fit (e.g. the GFI, NFI, TLI and CFI values were all lower than 0.90) and the necessity of re-specification of the models obtained.

For both the Afrikaans sample ($\chi^2_{\text{Difference}} = 0.06$; df = 1) and the African language sample ($\chi^2_{\text{Difference}} = 0.02$; df = 1) the differences between Models 3 and 4 were not significant, whilst all the fit indices were the same. However, the χ^2/df ratios of Model 4 (compared to Model 3) were somewhat lower for both samples.

Next, the factorial validity of the adapted MBI model for two language groups was assessed for the groups separately. The full 3-factor model consisting of 21 items was tested for each language category separately. Statistics of the fit between the theoretical model and the empirical data are given in Table 3.

Although various fit indices for Model 4 are substantially improved compared to the first three models, there is still some evidence of misfit. For example χ^2/df were not smaller than 2, and the NFI, TLI and CFI values were not above the critical 0.90 (Hoyle, 1995). Looking at the regression weights, two parameters, which represent the cross-loading of Item 13 and 14 on the Efficacy factor, stand apart from the rest and account for substantial mis-specification of the hypothesised factor loading. This may be caused by the ambivalence of the particular items. Models 4.1 and 4.2 represent re-specifications of Model 4 after deletion of Item 13 ("I just want to do my work and not be bothered") and item 18 ("I've become more callous toward people since I took this job"), respectively. Item 13 loaded on Professional Efficacy (instead of Cynicism where it is supposed to load), whilst item 18 showed standardised residuals higher than the cut-off point of 2.58. Standardised residuals represent estimates of the number of standard deviations the observed residuals are from the zero residuals that would exist if the model fit were perfect (Byrne, 2001). The standardised residuals of item 18 relative to other items were as follows: a) 6.48 — Item 17; b) 3.12 — Item 16; c) 4.24 — Item 14; d) 2.66 — Item 10, and e) –2.63 — Item 4.

Post hoc analysis

Modification indices (MI) were considered to pinpoint other areas of mis-specification in the model. The constrained parameters exhibited that the highest degree of misfit lay in the error covariance matrix and represented a correlated error between item 14 and 15 — Model 4.3 (MI = 26.98 for the Afrikaans language group and MI = 37.28 for the African language group) and item 11 and 12 — Model 4.4 (MI = 17.85 for the Afrikaans language group and MI = 57.68 for the African language group). Compared with the MI values for all other error covariance parameters, these values were exceptionally high and clearly in need of re-specification. Based on the modification indices and on theoretical considerations, Model 4 was re-specified, with these parameters freely estimated. Following Byrne (2001), error item pairs (i.e. MBI 4 – MBI 5 and MBI 11 – MBI 12) were allowed to correlate. Model 4.3 and 4.4 represent re-specifications of Model 4 after deletion of Item 13 (Model 4.1) and 18 (Model 4.2), respectively. Results of the analysis done in this study appear in Table 3.

Inspection of Model 4.4 in Table 3 indicates the best fit for the re-specified model. Although the χ^2 value (df = 146, $p < 0.01$) was still high, it was considerably lower than in Model 1. All the other fit statistics indicated excellent fit of the measurement model and the data. Since this model fit was satisfactory and the results agreed with the theoretical assumptions underlying the traditional and extended model of the burnout of educators, no further modifications of the

Table 4 Factorial invariance of the adapted MBI-GS model

Model	Groups	Comparative model	χ^2	df	$\Delta\chi^2$	Δdf	*p*
Hypothesised model — (Model 4 – 3 factors			769.47	290			
Factor loadings, variances, and covariances constrained	Afrikaans/ African	Model 4 (3-factor)	802.65	312	33.18	22	NS

model were deemed necessary. The final model was based on 19 of the original 21 items and included a correlated error between items 4 and 5 and 11 and 12. The results provided partial support for hypothesis H_1.

Next, tests of invariance in different language groups for the adapted MBI-GS model were computed, and these are indicated in Table 4.

The results in Table 4 show that construct equivalence existed, with factor loadings, variances and covariances constrained equally among the Afrikaans and African language groups. These results provided support for part of Hypothesis H_2 in that burnout, as measured by the Adapted MBI-GS, can be defined as a three-dimensional construct, with an equivalent structure for different language groups.

The correlations (*r*) between the dimensions of burnout were as follows: Exhaustion and Cynicism = 0.54; Exhaustion and Depersonalisation = 0.40; Exhaustion and Professional Efficacy = –0.23; Cynicism and Professional Efficacy = –0.34; Depersonalisation and Professional Efficacy = –0.26; and Cynicism and Depersonalisation = 0.49.

The descriptive statistics, alpha coefficients and inter-item correlations of the burnout dimensions are given in Table 5.

Table 5 Descriptive statistics, alpha coefficients and inter-item correlations of the MBI

Item	Mean	SD	Skewness	Kurtosis	*r* (Mean)	α
Exhaustion	14.04	7.31	0.05	–0.75	0.43	0.79
Mental Distance	14.95	8.99	0.52	–0.26	0.26	0.74
Professional Efficacy	29.18	5.61	–0.93	0.66	0.32	0.73

Inspection of Table 5 revealed that the scores on the factors of the model are normally distributed. Compared to the guideline of $\alpha > 0.70$ (Nunnally & Bernstein, 1994), the Cronbach alpha coefficients of the sub-scales are considered to be acceptable, except for depersonalisation (0.60) and cynicism (0.64). The inter-item correlations are considered acceptable compared to the guideline of $0.15 < r < 0.50$ (Clark & Watson, 1995). Overall, the internal consistency levels of the scales are acceptable. The results provide support for hypothesis H_1 because the measuring instrument shows high internal consistency.

Next, MANOVA and ANOVA analyses followed to determine the relationship between burnout and various demographic characteristics, such as different types of school, job level, considerations about quitting the profession, availability of equipment and age category. Differences between demographic groups were first analysed for statistical significance using Wilk's Lambda statistics. The results of these comparisons are reported in Table 6.

In an analysis of Wilk's Lambda values, no significant differences ($p < 0.01$) regarding burnout levels could be found between individuals at different job levels. However, statistically significant differences ($p < 0.01$) were found for type of school, considerations about quitting the profession, possession of equipment as well as age categories and burnout levels. The results provided partial support for hypothesis H_3 because significant differences based on biographical characteristics existed regarding burnout scores. Subsequently, the relationship between burnout and those demographic variable levels, which showed a significant difference, was further analysed using ANOVA, followed by Tukey HSD tests.

Table 6 MANOVAs — Differences in burnout levels of demographic groups

Variable	Value	*F*	df	Den DF	*p*
Type of school	0.93	6.41	12	2 942.4	0.00*
Job level	0.99	0.69	12	2 868.3	0.76
Considering quitting the profession	0.94	3.99	16	3 287.9	0.00*
Possesses the right equipment to teach	0.96	2.42	16	3 266.5	0.00*
Age categories	0.95	2.07	24	3 151.4	0.00*

Table 7 ANOVAs — Differences in burnout levels of different types of schools

Item	Primary	Inter-mediate	Com-bined	Secon-dary	*p*	Root MSE
Exhaustion	12.80[a]	13.78	13.91	16.53[b]	0.00*	7.15
Cynicism	7.81	8.25	7.76	10.02	0.00*	5.19
Depersona-lisation	6.14	5.40	6.33	7.41	0.00*	5.11
Professsional Efficacy	29.64	28.25	30.33	28.47	0.00*	5.54

* Significant difference ($p < 0.01$)

a Practically significant differences from type (in row) where

b (medium effect, $d \geq 0.50$) is indicated

The ANOVA of differences in burnout levels in the different types of schools is given in Table 7.

Table 7 shows that there were significant differences between levels of Exhaustion, Cynicism, Depersonalisation and Professional Efficacy experienced in the different types of schools. Educators in secondary schools experienced higher levels of exhaustion compared to primary school educators (practically significant, medium effect). Although significant differences were also found between the other dimensions of burnout, none of these was practically significant.

Table 8 shows that there were significant differences between levels of Exhaustion, Cynicism and Depersonalisation experienced and the extent to which educators consider quitting the profession. Educators who consider quitting the profession experienced practically significant higher levels of exhaustion (of a medium effect) compared to educators who do not. No practically significant differences were found regarding Cynicism, Depersonalisation and Professional Efficacy.

Differences in the burnout levels of age categories are reported in Table 9.

Table 9 indicates that there are statistically and practically significant differences (of medium effect) in the levels of Exhaustion and Cynicism of different age groups. Educators between the age of 45 and 50 compared to those in the age groups 18 to 27 and 57 to 68 obtained practically significant lower scores on Exhaustion, whilst educators in the age group 45 to 50 obtained lower scores on Cynicism than educators in the age group 18 to 27. No statistically or practically significant differences were found in terms of Depersonalisation and Professional Efficacy. Results shown in Tables 6 to 9 provide support for

Table 8 ANOVAs — Differences in burnout levels based on considerations of quitting the profession

Item	Agree 1	2	3	4	Disagree 5	*p*	Root MSE
Exhaustion	16.71[b]	15.77	14.10	14.40	12.78[a]	0.00*	7.18
Cynicism	9.91	9.28	8.60	9.33	7.75	0.00*	5.22
Depersonalisation	7.74	6.41	6.51	6.65	6.05	0.00*	5.14
Professsional Efficacy	29.01	29.57	28.75	28.02	29.60	0.03	5.57

* Significant difference ($p < 0.01$)

a Practically significant differences from group (in row) where b (medium effect, $d \geq 0.50$) is indicated

Table 9 ANOVAs — Differences in burnout levels of age categories

Item	1 18 – 27	2 28 – 32	3 33 – 38	4 39 – 44	5 45 – 50	6 51 – 56	7 57 – 68	*p*	Root MSE
Exhaustion	18.19[b]	12.98	13.52	14.98	12.94[a]	13.74	16.89[b]	0.00*	7.34
Cynicism	10.34[b]	7.78	8.27	8.95	7.72[a]	9.21	10.34	0.03	5.28
Depersonalisation	7.97	5.67	6.28	7.56	6.52	5.93	6.46	0.01	5.16
Professsional Efficacy	27.78	29.58	29.53	29.28	28.54	29.29	29.07	0.46	5.65

* Significant difference ($p < 0.01$)

a Practically significant differences from category (in row) where b (medium effect, $d \geq 0.50$) is indicated

hypothesis H_3. Significant differences exist between the scores of the burnout dimensions of different demographic groups.

Discussion

The aim of this study was twofold. Firstly, it was intended to test the psychometric qualities of a new three-factor model of burnout for educators that consisted of exhaustion, mental distance, (including depersonalisation, an MBI-ES factor, and cynicism, an MBI-GS factor) and professional efficacy. Secondly, it aimed to investigate the relationship of the sub-scales with demographic variables such as type of school, job level, considerations of quitting the profession, possession of equipment to teach effectively, and age category for educators in the North West Province of South Africa.

Results showed that, contrary to the findings of Salanova *et al.* (in press), burnout is not characterised by two separate cynicism and depersonalisation dimensions. The two collapse into one mental distance construct, which along with exhaustion and professional efficacy, constitutes the syndrome. The three-factor model fitted better to the data than a four-factor model (separate cynicism and depersonalisation dimensions). Also, the internal consistencies of the cynicism and depersonalisation sub-scales are questionable if they are treated as two independent factors.

Based on both conceptual and empirical grounds, items 13 and 18 were deleted from the adapted MBI-GS, resulting in a 19-item scale. The deletion of item 13 ("I just want to do my job and not be bothered") is consistent with previous studies (Schutte, Toppinen, Kalimo, & Schaufeli, 2000; Storm & Rothmann, 2003), where this item was excluded when testing the factorial validation of the MBI-GS. According to these authors, problems may be caused by the ambivalent nature of this item. A high score may indicate disengagement and social isolation by closing oneself off from contacts with others at work. A high score may also indicate strong motivation and engagement. Item 18 ("I've become more callous toward people since I took this job") was also removed from the questionnaire. The standardised residuals showed that participants possibly associated the word "callous" with Professional efficacy, and not with either Exhaustion, Cynicism or Depersonalisation.

The results showed that the construct equivalence of the adapted MBI-GS was acceptable for the Afrikaans and African language groups. This meant that the mean scores of these groups could be compared in other analyses.

The second objective of the study was to investigate the relationship between burnout and various demographic characteristics. The results indicated that a difference exists between the levels of exhaustion, mental distance and professional efficacy experienced by educators in different types of schools. Educators in secondary schools suffered higher levels of exhaustion compared to those in primary schools. However, this result is contrary to that of Byrne (1993), who found that intermediate school educators experience higher levels of exhaustion compared to elementary and secondary school educators.

Educators who consider quitting the profession are more likely to be exhausted and cynical and to treat their learners as objects (depersonalising) compared to those who do not consider quitting the profession. The result is consistent with the findings of Weisberg and Sagie (1999), who suggested that physical and mental exhaustion have a positive and significant influence on intentions to leave.

Educators in the age group 45 to 50 experienced significantly lower levels of exhaustion and cynicism compared to younger educators (18 to 27) and those approaching retirement (older than 57 years). Young educators are usually excited and optimistic about helping learners when they join the profession; however, when confronted with the challenges facing the teaching profession in South Africa, they become disillusioned (Mestry, 1999). Those approaching retirement might be questioning their contributions to the profession, especially if little or no progress was made in terms of promotion and financial independence. No significant differences were found for the levels of different burnout dimensions and gender.

A limitation of this study was that it relied exclusively on self-reporting measures. This causes a particular problem in validation studies that use self-reporting measures exclusively, in that it increases the likelihood that at least part of the shared variance between measures can be attributed to method variance (Schaufeli & Enzmann, 1998). Another limitation is the sampling procedure, and future studies could benefit from using a stratified random-sample design.

Recommendations

Based on the results of this study, it is recommended that the MBI-GS, including the Depersonalisation sub-scale of the MBI-ES, be used to assess burnout of educators. However, items 13 and 18 should be omitted when administering the questionnaire. Interventions should be planned to manage and/or prevent burnout of educators, because exhaustion and cynicism will lead to poor service delivery and will influence the quality of teaching and learning.

Although this study found the MBI-GS, including the Depersonalisation sub-scale of the MBI-ES, to be reliable and confirmed the three-factor structure, it is suggested that future research should focus

on the new educator burnout conceptualisation in other settings to verify the current findings. Future studies should also investigate the relationship between cynicism and/or depersonalisation and particular job characteristics and work-related outcomes, such as organisational commitment, job satisfaction, turnover and absenteeism.

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