

A psychometric assessment of the Maslach Burnout Inventory (General Survey) in a customer-service environment

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ABSTRACT

The objectives of this study were to validate the Maslach Burnout Inventory – General Survey (MBI-GS) for a customer-services environment, and to assess differences in the burnout levels among various demographic groups. A cross-sectional survey design was used. A sample ($n = 228$) was taken of customer-services personnel working for medical schemes. The MBI-GS and a biographical questionnaire were administered. Structural equation modelling (SEM) confirmed a three-factor model of burnout, consisting of Exhaustion, Cynicism, and Professional Efficacy. All three factors showed acceptable internal consistencies. The results obtained from comparing burnout levels of various demographic groups showed that no practically significant burnout differences, existed among of employees of different race groups, genders, or organisations.

INTRODUCTION

The worldwide shift in focus from goods production to service provision has resulted in the expansion of the service sector in most economies of the world. The front-line worker has become a central figure in this new workplace, with work in many rapidly growing occupations in advanced societies being service-related and people-centred (Frenkel, Tam, Korczynski and Shire, 1998). In call centres, for instance, frontline staff forms an important link between the company and the customer, and the role they play in the management of customer relations should not be underestimated. The perceived quality of

service as rendered by a call centre is greatly influenced by the nature of this interaction (Peccei and Rosenthal, 1997). Research has shown that the manner in which call centre staff display their feelings towards customers has a critical effect on the quality of service transactions (Ashforth and Humphrey, 1993).

Organisations want to manage this link, and requirements regarding behaviour that conforms with organisationally-established norms are common in most areas of interactive service work (Macdonald and Sirianni, 1996). Call-centre work requires a high degree of personal contact with the public, and also the performance of “emotional labour” (Hochschild, 1979). *Emotional work* (or emotional labour) can be defined as the psychological processes necessary to regulate organisationally desired emotions as part of one's job. Emotional work entails the displaying of emotions that comply with certain norms and standards of the organisation in terms of customer service (Morris and Feldman, 1997). Expressing appropriate emotions during face-to-face or voice-to-voice interactions is a job demand of many employees in the service industry (Zapf, Seifert, Schmutte and Holz, 2001).

The customer-service employee is often caught between satisfying management and customers on the one hand, and the meeting of productivity and quality goals on the other (Singh, 2000). Greater pressure in terms of productivity can be seen in the efforts to increase the number of calls handled per call-centre agent, and to reduce both customer call time and wrap-up time (Taylor and Bain, 1999; Taylor, 1998). Employees are often monitored for productivity, and these conflicting demands can lead to role conflict for

employees, and lessen their ability to provide high-quality service (Knights and McCabe, 1998).

Customer satisfaction is seen as the overriding goal in Total Quality Management (TQM), which is just one of a number of managerial attempts to reconstruct work organisations in ways which are customer-focused (Taylor, 1998). The customer as third party in the work process results in further pressure on the call-centre agent, with the customer being asked to provide feedback and also having the power to lodge complaints. The customer can add tension by being abusive and making unreasonable demands (Macdonald and Sirianni, 1996). Employees are often encouraged to suppress their true feelings and detach themselves emotionally from hostile or difficult customers, in an effort to protect themselves against abuse and ill treatment (Frenkel *et al.*, 1998). The discrepancy between what employees might feel towards customers and the emotions they are required to display (emotional dissonance) may prove difficult to resolve, and may lead to considerable anxiety (Wharton, 1993).

Burnout can be defined as a state of physical, emotional and mental exhaustion that results from long-term involvement in work situations that are emotionally demanding (Schaufeli and Greenglass, 2001). The incidence of burnout was originally believed to be restricted to the helping professions, but is now recognised as a phenomenon found in a variety of occupational groups (Cordes and Dougherty, 1993). Burnout research has indicated that burnout has negative outcomes for both the individual and the organisation. Burned-out workers show a lack of commitment, and are less capable of providing adequate services, especially in terms of decision-making and initiating involvement with clients (Fryer, Poland, Bross and Krugman, 1988; Maslach, 1982). Burnout leads to workers being too depleted to give of themselves in a creative, co-operative fashion (Sammur, 1997).

Maslach and Schaufeli (1993) reviewed various definitions of burnout, and concluded that these definitions shared the following five elements: (a) there is a predominance of fatigue symptoms, such as mental or emotional exhaustion, tiredness, and depression; (b) various atypical physical distress symptoms may occur; (c) burnout symptoms are work-related; (d) the symptoms manifest themselves in "normal persons" who did not suffer from psychopathology before; and (e) decreased effectiveness and impaired work performance occur because of negative attitudes and behaviours (Schaufeli, Bakker, Hoogduin, Schaap and Kladler, 2001).

The most influential development in terms of scientific exploration of the burnout construct was the development of the Maslach Burnout Inventory (MBI) (Maslach and Jackson, 1986). The Maslach Burnout Inventory (MBI; Maslach *et al.*, 1996) is currently the most widely used research instrument to measure burnout. It has been used in over 90% of empirical research (Schaufeli and Enzmann, 1998). Three versions of the MBI were developed, namely the MBI-GS (General Survey), MBI-ED (Educators) and MBI-HSS (Human Services Survey). The dimensions of burnout are conceptualised differently, depending on the nature of the job concerned. In the helping professions (including education), three dimensions of burnout are distinguished, namely emotional exhaustion, depersonalisation, and low personal accomplishment. In jobs other than the helping professions, the dimensions of burnout are labelled as exhaustion, cynicism, and low professional efficacy (Maslach, Jackson and Leiter, 1996).

Zapf *et al.* (2001) found that the high emotional demands resulting from interaction with clients, i.e. emotional work (the requirement to display organisationally desired emotions) was a significant predictor of all three burnout subscales. Their analysis of interaction effects of emotional dissonance (the requirement to display emotions that are not felt) and stressors showed that, for service professionals, the coincidence of these stressors led to exaggerated levels of emotional exhaustion and depersonalisation. Other research studies on emotional dissonance also consistently found correlations with emotional exhaustion (Nerdinger and Roper, 1999; Schaubroeck and Jones, 2000; Zerbe, 2000). Respondents in the research were more likely to develop higher levels of emotional exhaustion and depersonalisation under conditions of combined high emotional dissonance and stressor conditions. Singh (2000) found that, with increasing burnout levels, customer-service employees maintained their productivity levels, while their quality of work deteriorated.

Exhaustion is a core component of burnout (Jackson, Schwab and Schuler, 1986; Maslach, 1982). Exhaustion is considered to be the first stage in the burnout process, and provides a critical point for managerial intervention (Gaines and Jermier, 1983). Human service providers cope with exhaustion by depersonalising their relationships with others, which in turn undermines their accomplishments, and results in negative evaluations of their work (Leiter and Maslach, 1988). Interaction between the service provider and the customer is a critical determinant of exhaustion (Maslach, 1982; Maslach and Jackson, 1981; 1984). Research has shown that the level of

exhaustion is affected by the frequency of interpersonal interactions (Maslach, 1982). This can be seen in helping and caring professions and in customer-service occupations, where the strain of frequent and often intense contact with people can result in anxiety and frustration, as well as in feelings of being used and being worn out (Perlman and Hartmen, 1982; Maslach and Jackson, 1981).

Given the above discussion, the lack of empirical research to systematically investigate burnout in a customer-service environment in South Africa is a concern. Burnout research in South Africa has been limited by poorly designed and controlled studies, and a lack of sophisticated statistical analysis (Rothmann, 2003).

A reliable and valid instrument is required for the measurement of burnout in order to conduct empirical research, and is also needed for the purpose of individual assessment. A recent trend in burnout research is the adaptation of the original version of the MBI for use outside the human services. This new version was called the MBI-General Survey (MBI-GS; Schaufeli, Leiter, Maslach and Jackson, 1996). The concept of burnout and its measurement were broadened to include all employees and not only those who do "people work" (Maslach and Leiter, 1997). However, the MBI-GS has not yet been validated for people working in a customer-service environment. Furthermore, only limited information is available regarding the internal consistency and construct validity of the MBI-GS (Rothmann, 2003).

The objectives of this study were to assess the construct validity and internal consistency of the MBI-GS, and to investigate the impact of burnout in different demographic groups.

The Maslach Burnout Inventory – General Survey (MBI-GS)

Research on the concept of burnout historically focused on people in the helping professions (Schaufeli and Enzmann, 1998). This work resulted in the development of the MBI as an instrument to measure burnout. However, research and practice have shown that burnout exists in other professions as well. Research using the MBI in measuring burnout in the non-helping professions found that scores differed from norms established within the helping professions (Maslach, Jackson and Leiter, 1997). The MBI-GS was developed to address the need for a measuring instrument that could be used outside the

helping professions (Schaufeli, Leiter, Maslach and Jackson, 1996). The MBI-GS measures parallel dimensions to those in the MBI, the difference being that the items do not explicitly refer to working with people. The MBI-GS subscales consist of the following: Exhaustion (Ex), Cynicism (Cy) and Professional Efficacy (PE) (Schaufeli *et al.*, 1996). "Exhaustion" refers to feelings of being overextended and depleted of one's emotional and physical resources. "Cynicism" is seen as a negative, callous or detached response to various aspects of the job. "Professional efficacy" is described as a feeling of competence, and productivity and achievement at work.

A strong resemblance between the two versions of the MBI has been reported, and this ensures maximum comparability and generalisability of results obtained from one occupational group to another (Taris, Schreurs and Schaufeli, 1999). The three dimensions of the MBI-GS are interrelated: Cynicism is highly related to Exhaustion ($0.44 < r < 0.61$), and also strongly related to Professional Efficacy ($-0.38 < r < -0.57$) (Schaufeli *et al.*, 1996). Taking this into consideration, it appears that burnout can be measured validly across a range of different occupations, despite the differences between human-service occupations and non-contactual professions (Storm and Rothmann, 2003).

Satisfactory internal consistencies ranging from 0.73 (Cynicism) to 0.91 (Exhaustion) have been reported for the scales of the MBI-GS (Leiter and Schaufeli, 1996). Reliability analyses showed that the Exhaustion and Professional Efficacy subscales were sufficiently internally consistent, but that one Cynicism item should be removed in order to increase internal consistency beyond the criterion of 0.70 (Schutte, Toppinen, Kalimo and Schaufeli, 2000). Four studies were reported that had used the MBI-GS in South African samples. In a sample of senior managers in a manufacturing industry, Rothmann and Jansen van Vuuren (2002) reported satisfactory alpha coefficients: Exhaustion = 0.79; Cynicism = 0.84 (after item 13 had been omitted); and Professional Efficacy = 0.84. Rothmann and Malan (2003) reported higher alphas (Exhaustion = 0.89; Cynicism = 0.76; and Professional Efficacy = 0.85), while Rothmann, Jackson and Kruger (2003) found lower alphas for Cynicism (0.72 after item 13 had been omitted) and Professional Efficacy (0.69). Storm and Rothmann (2003) reported alpha coefficients of 0.88 (Exhaustion), 0.78 (Cynicism) and 0.79 (Professional Efficacy) in a sample of 2 396 police officers in South Africa. Against this background it can be concluded that the MBI-GS is a reliable instrument for use in South Africa.

Confirmatory factor analysis done by Schutte *et al.* (2000) showed that the three-factor model was clearly superior to alternative one-factor and two-factor models. Schaufeli, Salanova, González-Romá and Bakker (2002) confirmed these findings. Leiter and Schaufeli (1996) employed confirmatory factor analysis, and also confirmed a three-factor structure. Similar results were reported by Taris *et al.* (1999).

Confirmatory factor analyses by Malan and Rothmann (2003), Rothmann *et al.* (2003) and Rothmann and Jansen van Vuuren (2002), consistently showed low loadings of item 13 of the MBI-GS on Cynicism. Storm and Rothmann (2003) used SEM methods as implemented by AMOS (Arbuckle, 1997), to test the factorial model for the MBI-GS on a random, stratified sample ($n = 2\,396$) in the South African Police Services (SAPS). Prior to testing the three-factor model of burnout, a one-factor model was tested. However, the one-factor model showed poor fit, while a three-factor model, using 15 of the original items and including correlated errors between Item 1 and Item 2 and between Item 9 and Item 10, resulted in a good fit. It seems reasonable to expect that a three-factor model will be confirmed in this study.

Gender, race, organisation and burnout

No research on burnout and gender pertaining to customer-service personnel could be found. Research on gender and burnout for other occupations does not reveal consistent findings. In research examining gender differences in burnout, men and women often occupy different occupational roles, which could result in a confusion of gender and occupation (Schaufeli and Greenglass, 2001). Other research indicates that men experience higher scores on depersonalisation than women (Greenglass, Pantony and Burke, 1988). A study by Maslach, Schaufeli and Leiter (2001) also found a small but consistent difference in that women scored slightly higher on exhaustion, while men obtained higher scores on depersonalisation.

Regarding race and burnout, Coetzee and Rothmann (2004) found that white employees (compared to blacks) showed higher levels of exhaustion. Coetzee and Rothmann attributed this difference to demands faced by white employees because of employment equity and organisational transformation.

Recent changes in the global economy have resulted in employment conditions that have made many more workers vulnerable to occupational burnout relating to job insecurity (Schaufeli *et al.*, 2001). In response to economic

demands, some medical schemes in South Africa are also restructuring, which might result in job insecurity. The prospect of demotion, or even job loss, can be associated with decreased psychological well-being (Roskies and Louis-Guerin, 1990). When employees perceive their job security to be threatened because of downsizing, they experience stress, which could result in cynicism and hostility (Schaufeli *et al.*, 2001). Job insecurity threatens the psychological safety of employees, which could lead to alienation and disengagement from work (May, Gilson and Harter, 2004). Therefore, there is reason to believe that different burnout levels would occur in the different organisations participating in the current study, as some of the medical schemes were in the process of restructuring.

In the light of the above discussion, the following propositions are proposed:

- P¹: Burnout, as measured by the MBI-GS, is a three-dimensional construct
- P²: The scales of the MBI-GS show acceptable internal consistency
- P³: The burnout levels of race and gender groups as well as different organisations (medical schemes) differ

METHOD

Research design

A cross-sectional survey design was used to achieve the research objectives (Shaughnessy and Zechmeister, 1997).

Sample

A convenience sample of customer-service personnel was drawn ($n = 227$). The majority of the sample consisted of inbound call-centre agents. The second largest group consisted of customer-service administrators, who supported the call centre agents with their administrative function, and who were also in contact with clients (outbound). The sample also included client liaison officers, who dealt with clients face-to-face and also telephonically. The rest of the sample consisted of people in a managerial function in customer services, as well as other support staff all of whom were required to deal with customers. Table 1 presents some of the characteristics of the participants.

The participants were mostly female (69.2%) and single

TABLE 1
CHARACTERISTICS OF THE PARTICIPANTS

Item	Category	Frequency	Percentage
Race	White	74	32.60
	Black	69	30.40
	Coloured	47	20.70
	Indian	31	13.70
	Other	6	2.60
Position	Call-centre agent	127	55.95
	Customer services administration	60	26.44
	Supervisor	7	3.08
	Client liaison officer	10	4.41
	Manager	3	1.32
	Other	20	8.80
Education	Grade 10	22	9.69
	Grade 11	7	3.08
	Grade 12	165	72.69
	Technical college diploma	13	5.73
	Technikon diploma	11	4.85
	University degree	6	2.64
	Postgraduate degree	3	1.32
Gender	Male	70	30.84
	Female	157	69.16

(42.2%), and most had a high-school education. The mean age of participants was 33.23 years ($SD = 8.86$), while the mean length of work experience was 3.46 ($SD = 3.87$) years.

Measuring battery

The MBI-GS (Schaufeli *et al.*, 1996) was used in this study. In addition, a biographical questionnaire was used.

The MBI-GS (Schaufeli *et al.*, 1996) measures respondents' relationships with their work on a continuum from engagement to burnout. The MBI-GS has three subscales: Exhaustion (Ex) (five items, e.g. "I feel used up at the end of the workday"), Cynicism (Cy) (five items, e.g. "I have become less enthusiastic about my work") and Professional Efficacy (PE) (six items, e.g. "In my opinion, I am good at my job"). Together, the subscales of the MBI-GS provide a three-dimensional perspective on burnout. Internal consistencies (Cronbach alpha coefficients) reported by Schaufeli *et al.* (1996) varied from 0.87 to 0.89 for Exhaustion, to 0.73 to 0.84 for Cynicism, and 0.76 to

0.84 for Professional Efficacy. Test-retest reliabilities after one year were 0.65 (Exhaustion), 0.60 (Cynicism) and 0.67 (Professional Efficacy) (Schaufeli *et al.*, 1996). All items are scored on a 7-point frequency rating scale ranging from 0 (never) to 6 (daily). High scores on EX and CY, and low scores on PE are indicative of burnout. Storm and Rothmann (2003) confirmed the three-factor structure of the MBI-GS in a sample of 2 396 SAPS members, but recommended that Item 13 be dropped from the questionnaire. Structural equivalence of the MBI-GS for different race groups in the SAPS was confirmed. The following Cronbach alpha coefficients were reported for the MBI-GS: Exhaustion: 0.88; Cynicism: 0.79; Professional Efficacy: 0.78 (Storm and Rothmann, 2003).

A questionnaire was developed, to collect information on the demographic characteristics of the participants. This questionnaire gave participants the option of supplying their name and employee number. Other information that was collected included age, gender, years in current position, educational qualifications, marital status, language, and overall health.

Statistical analysis

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

SEM methods, as implemented by AMOS (Arbuckle, 1997), were used to test the factorial model for the MBI-GS, using the maximum likelihood method. Hypothesised relationships were tested empirically for goodness of fit with the sample data. The χ^2 statistic and several other goodness-of-fit indices summarised the degree of correspondence between the implied and observed covariance matrices. Jöreskog and Sörbom (1993) suggest that the χ^2 value may be considered more appropriately as a badness-of-fit rather than as a goodness-of-fit measure, in the sense that a small χ^2 value is indicative of good fit. However, because the χ^2 statistic equals $(N - 1)F_{min}$, this value tends to be substantial when the model does not hold and the sample size is large (Byrne, 2001). A large χ^2 relative to the degrees of freedom is more commonly found, and indicates a need to modify the model to fit the data better (Jöreskog and 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. One of the first fit statistics to address this problem was the χ^2 /degrees of freedom ratio (CMIN/DF) (Wheaton, Muthén, Alwin and Summers, 1977). A value < 2 indicates an acceptable fit (Tabachnick and Fidell, 2001). Various criteria, commonly referred to as "subjective" or "practical" indices of fit, are typically used as adjuncts to the χ^2 statistic.

The standardised RMR represents the average value across all standardised residuals, and ranges from zero to 1.00. A well-fitting model will require a value of 0.08 or less (Byrne, 2001). The Goodness of Fit Index (GFI) indicates the relative amount of the variances/co-variances in the sample predicted by the estimates of the population. It varies between 0 and 1, and a result of 0.90 or above indicates a good model fit. The Adjusted Goodness-of-Fit Index (AGFI) is a measure of the relative amount of variance accounted for by the model, corrected for the degrees of freedom in the model, relative to the number of variables. The GFI and AGFI can be classified as absolute indices of fit, because they basically compare the hypothesised model with no model at all (Hu and Bentler, 1995). Although both indices range from zero to 1.00 the distribution of the AGFI is unknown, therefore no statistical test or critical value is available (Jöreskog and Sörbom, 1986).

The Normed Fit Index (NFI) was used to assess global model fit. The NFI represents the point at which the model being evaluated falls on a scale ranging from a null model to perfect fit. This index is normed to fall on a 0 to 1 continuum. Marsh, Balla and Hau (1996) suggest that this index is relatively insensitive to sample size. The Comparative Fit Index (CFI) represents the class of incremental fit indices that it is derived from the comparison of a restricted model (i.e., one in which structure is imposed on the data) with that of an independence (or null) model (i.e., one in which all correlations among variables are zero) in the determination of goodness-of-fit. The Tucker-Lewis Index (TLI) (Tucker and Lewis, 1973), is a relative measure of covariation explained by the model that is specifically developed to assess factor models. For these fit indices (NFI, CFI and TLI), it is generally accepted that a value of less than 0.90 indicates that the fit of the model can be improved (Hoyle, 1995), although a revised cut-off value close to 0.95 has recently been advised (Hu and Bentler, 1999).

To overcome the problem of sample size, Browne and Cudeck (1993) suggested using the Root Mean Square Error of Approximation (RMSEA) and the 90%

confidence interval of the RMSEA. The RMSEA estimates the overall amount of error and is a function of the fitting function value relative to the degrees of freedom. The RMSEA point estimate should be 0.05 or less in order to indicate good fit, and the upper limit of the confidence interval should not exceed 0.08. Hu and Bentler (1999) suggested a value of 0.06 to be indicative of good fit between the hypothesised model and the observed data. MacCallum, Browne and Sugawara (1996) recently elaborated on these cut-off points, and noted that RMSEA values ranging from 0.08 to 0.10 indicate mediocre fit, and those greater than 0.10 indicate poor fit.

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

T-tests were used to assess differences between the burnout levels of males and females. Effect sizes (Cohen, 1988; Steyn, 1999) were used in addition to statistical significance, to assess the significance of relationships. Effect sizes indicate whether obtained results are important (while statistical significance may often show results which are of little practical relevance). The use of only statistical significance testing in a routine manner has been criticised, and from editors of some journals there have been calls to place more emphasis on effect sizes (Steyn, 1999). The following formula was used to measure the practical significance of differences (d) when t-tests were used (Steyn, 1999):

where

$Mean_A$ = Mean of the first group

$Mean_B$ = Mean of the second group

SD_{MAX} = Highest standard deviation of the two groups

$$d = \frac{Mean_A - Mean_B}{SD_{MAX}}$$

The following formula was used to measure the practical significance of means of more than two groups (Steyn, 1999):

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

where

$Mean_A$ = Mean of the first group

$Mean_B$ = Mean of the second group

Root MSE = Root Mean Square Error

A cut-off point of 0.50 (medium effect) (Cohen, 1988) was set for the practical significance of differences between means.

RESULTS

SEM methods as implemented by AMOS (Arbuckle, 1997) were used to test the factorial model for the MBI-GS. Data analyses proceeded as follows: First, a quick overview of model fit was done by inspecting the overall χ^2 value, together with its degrees of freedom and probability

value. Global assessments of model fit were based on several goodness-of-fit statistics (GFI, AGFI, NFI, TLI, CFI and RMSEA); secondly, given findings of an ill-fitting initially hypothesised model, the analyses proceeded in an exploratory mode. Possible misspecifications as suggested by the so-called modification indices were considered, and eventually a revised, re-specified model was fitted to the data.

Hypothesised model

A one-factor model was first tested. However, a statistically significant χ^2 value of 352.63 (df = 104; $p = 0.00$) revealed a very poor overall fit. All other indices indicated a poor fit between a hypothesised one-factor model and the data. Table 2 presents fit statistics for the test of this model.

Following the above-mentioned procedure, the three-factor model consisting of all 16 items was tested. Table 3 presents fit statistics for the test of this model.

The statistically significant χ^2 value of 145.53 (df = 101; $p = 0.00$) revealed a relatively poor overall fit of the originally hypothesised MBI model. However, both the sensitivity of the likelihood ratio test to sample size and its basis on the central χ^2 distribution, which assumes that the model fits perfectly in the population, have been reported to lead to problems of fit. Jöreskog and Sörbom (1993) pointed out that the use of χ^2 is based on the assumption that the model holds exactly in the population, which is a stringent assumption. A consequence of this assumption is that models that hold approximately in the population will

TABLE 2
GOODNESS-OF-FIT STATISTICS FOR A ONE-FACTOR MBI-GS MODEL

Model	χ^2	χ^2/df	GFI	AGFI	NFI	TLI	CFI	RMSEA
1 Factor	352.63	3.39	0.82	0.76	0.68	0.71	0.75	0.10

TABLE 3
GOODNESS-OF-FIT STATISTICS FOR THE HYPOTHESED THREE-FACTOR MBI-GS MODEL

Model	χ^2	χ^2/df	Stand. RMR	GFI	AGFI	NFI	TLI	CFI	RMSEA
Model 1	145.53	1.44	0.05	0.93	0.90	0.87	0.95	0.96	0.04

be rejected in a large sample. Furthermore, the hypothesised model (Model 1) was also not particularly good from a practical perspective. The NFI value is lower than 0.95 which suggests that there are areas that could be improved on in terms of model fit. It is apparent that some modification in specification is needed, in order to identify a model that better represents the sample data.

If one looked at the regression weights, one parameter, which represents the cross-loading of Item 13 on the Efficacy factor, stood apart from the rest, and accounts for substantial misspecification of the hypothesised factor loading. This might have been caused by the ambivalence of the particular item. To pinpoint possible areas of misfit, the modification indices (MI) were examined. The constrained parameters exhibiting the highest degree of misfit lay in the error covariance matrix, and represent a correlated error between item 1 and item 2 (MI = 7.44). Following Byrne (2001), errors of two item pairs were allowed to correlate, and based on the modification indices and theoretical considerations, Model 2 was re-specified with these parameters freely estimated.

Post hoc analyses

Given the rejection of the initially postulated model, the focus shifted from model test to model development (exploratory factor analysis). Considering the high cross-loading of Item 13, it was decided to re-specify the model without this item. All subsequent analyses were then based on the 15-item revision, which is labelled here as Model 2

and its fit statistics are presented in Table 4.

The fit statistics in Table 4 indicate a good fit for the re-specified model. Although the NFI value is still lower than 0.95, is it an improvement on Model 1. All the other fit statistics indicate excellent fit of the measurement model to the data. Since this model fit was satisfactory and the results were in line with the theoretical assumptions underlying the structure of the MBI-GS, no further modifications of the model were deemed necessary. The correlations between the three burnout dimensions are as follows: EX and CY show the highest correlation of 0.77, followed by EX and PE with a correlation of -0.33, and CY and PE with a correlation of -0.33. Our first proposition, namely that the MBI-GS has a three-factor structure, was therefore accepted.

The descriptive statistics, alpha coefficients and inter-item correlations of the three factors of the MBI-GS are reported in Table 5.

The scores on the three factors of the MBI-GS are normally distributed. The Cronbach alpha coefficients of the scales are considered to be acceptable compared to the guideline of $\alpha > 0.70$ (Nunnally and Bernstein, 1994). However, one scale, namely Professional Efficacy, showed an alpha coefficient somewhat lower than the guideline of 0.70. The inter-item correlations are considered acceptable compared to the guideline of $0.15 < r < 0.50$ (Clark and Watson, 1995). It appears that the scales have acceptable levels of internal consistency. These results provide

TABLE 4
GOODNESS-OF-FIT STATISTICS FOR MODEL 2

Model	χ^2	χ^2/df	Stand. RMR	GFI	AGFI	NFI	TLI	CFI	RMSEA
Model 2	113.09	1.33	0.05	0.94	0.91	0.90	0.96	0.97	0.04

TABLE 5
DESCRIPTIVE STATISTICS, ALPHA COEFFICIENTS AND INTER-ITEM CORRELATIONS OF THE MBI-GS.

Item	Mean	SD	Skewness	Kurtosis	$r(\text{Mean})$	
Exhaustion	15.97	7.69	-0.19	-0.94	0.54	0.85
Cynicism	10.40	5.70	0.10	-0.76	0.39	0.72
Professional Efficacy	31.09	4.24	-0.92	0.46	0.26	0.68

support for Proposition 2.

Compared to normative data obtained by Storm and Rothmann (2003), 59% of the sample experienced a high level of exhaustion, while 50% experienced high cynicism. However, only 9% of the sample experienced low levels of professional efficacy.

Next, MANOVA and ANOVA analyses were conducted, to assess the relationship between burnout and various demographic characteristics, such as different race and gender groups, and different call centres. Demographic characteristics were first analysed for statistical significance, using Wilk's Lambda statistic. The results of these comparisons are reflected in Table 6.

The Wilk's Lambda values reported in Table 6 show that there are no differences between the burnout levels of different race groups or the call-centres of different medical scheme organisations. Table 7 shows that no statistically or practically significant differences were obtained regarding the three dimensions of burnout and gender.

Proposition 3 could thus not be accepted.

DISCUSSION

The objective of this study was to test the psychometric qualities of the MBI-GS for customer-services personnel,

and to compare the relationship of burnout with various demographic characteristics. The psychometric properties of the MBI-GS were firstly tested. Reliability analyses revealed that all three subscales were sufficiently internally consistent. A three-factor structure was confirmed, using the SEM approach, which is consistent with research findings across various samples, occupational groups and countries (Storm and Rothmann, 2003; Schaufeli *et al.*, 2002; Schutte *et al.*, 2000; Taris *et al.*, 1999 and Leiter and Schaufeli, 1996).

Two observed correlations found between the MBI-GS scales were within the range of the American test manual (Schaufeli *et al.*, 1996). Exhaustion and Professional Efficacy correlated with -0.33 , and Maslach *et al.* (1996) found correlations that ranged from -0.04 to -0.34 . A correlation of -0.33 was found between Cynicism and Professional Efficacy, and test-manual correlations ranging from -0.38 to -0.57 were found. The correlations between Exhaustion and Cynicism showed the highest correlation of 0.77 , but differed from the test manual correlation ranging from 0.44 to 0.61 for these two scales.

Based on both conceptual and empirical grounds, item 13 ("I just want to do my job and not be bothered") was deleted from the original MBI-GS, resulting in a 15-item scale. This is consistent with the study of Schutte *et al.* (2000), where this item was also excluded in a cross-national study on the factorial validity of the MBI-GS. According to these authors, problems might be caused by the ambivalent

TABLE 6
MANOVA OF DIFFERENCES BETWEEN BURNOUT OF RACE
AND ORGANISATION

	Value	F	df	Den DF	p
Race	0.95	1.29	9	520.97	0.24
Organisation	0.94	1.10	6	200.00	0.37

TABLE 7
DIFFERENCES BETWEEN CUSTOMER-SERVICES PERSONNEL
BASED ON GENDER

Item	Male	Female	t	p	d		
	Mean	SD	Mean	SD			
Exhaustion	15.53	7.73	16.21	7.78	-0.60	0.55	-
Cynicism	9.44	5.63	10.85	5.71	-1.70	0.09	-
Professional Efficacy	31.39	4.22	30.86	4.31	0.81	0.42	-

nature of this item. On the one hand, a high score may indicate disengagement and social isolation by closing oneself off from contacts with others at work. On the other hand, a higher score may indicate strong motivation and engagement: one concentrates on the task and does not want to be interrupted. Therefore, although the deletion of item 13 was part of the *post hoc* analyses, and validation is needed in future studies, the decision to eliminate this item is consistent with previous research (Storm and Rothmann, 2002; Schutte *et al.*, 2000) and should not be regarded as a model specification for the sole purpose of data fitting.

Error terms within subscales were also allowed to correlate in order to improve model fit. Although correlated error terms may be derived from specified characteristics either of respondents or of the items of a survey, they represent systematic rather than random measurement error in item responses. They may also derive from characteristics specific either to the items or to the respondents (Aish and Jöreskog, 1990). For example, if these parameters reflect item characteristics, they may represent a small, omitted factor. However, as may be the case here, correlated errors may represent respondent characteristics that reflect bias, such as yea-/nay-saying or social desirability (Aish and Jöreskog, 1990), as well as a high degree of overlap in item content (when items, although worded differently, essentially ask the same question) (Byrne, 2001).

The second objective of the study was to investigate the relationship between burnout, gender, race, and medical scheme. No statistically significant differences were found for race, organisation or gender. These variables might be less important in influencing burnout levels compared to job demands, job resources, and dispositional variables (Schaufeli and Enzmann, 1998). The results showed that the average level of exhaustion was relatively high compared to a study by Storm and Rothmann (2003). According to Greenglass (1991), gender is often confounded with occupational role and hierarchical position. When confounding variables are taken into account, no significant gender differences in burnout emerged.

In conclusion, the three-factor structure and internal consistency of the burnout construct were confirmed. Based on the results obtained in this study, it seems that the MBI-GS is a suitable instrument for measuring burnout in a customer-service environment. Therefore, the MBI-GS opens up further possibilities for burnout research in South Africa in other non-service occupations.

LIMITATIONS

A limitation of this study was that it relied exclusively on self-report measures (Schaufeli and Enzmann, 1998). Another limitation is the sampling procedure, and future studies could benefit by using a stratified random-sample design, which would enable generalisation of findings to the total study population. The sample was also too small to determine the structural equivalence of the MBI-GS for different race or language groups.

RECOMMENDATIONS

Based on the results of this study, it is recommended that the MBI-GS be used to assess burnout in a customer-service environment. However, item 13 should be omitted when administering the questionnaire. Interventions should be planned to manage and/or prevent burnout of call-centre staff, because exhaustion and cynicism will lead to poor service to customers, and this was found to be quite high compared to normative data. However, more research is needed to develop a causal model of burnout for customer-service staff.

Although this study found the MBI-GS to be reliable, and confirmed the three-factor structure, it is suggested that future research should focus on the MBI-GS in other customer-service samples in South Africa to verify the current findings. In future studies, SEM could be used to test the construct equivalence of the MBI-GS for different language groups.

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