

ON THE CLINICAL VALIDITY OF THE MASLACH BURNOUT INVENTORY AND THE BURNOUT MEASURE*

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Current knowledge about burnout suffers from a healthy worker bias since only working – and thus relatively healthy – employees have been investigated. The main objective of this study is to examine – for the first time among employees who sought psychological treatment – the validity of the two most widely used burnout instruments; the Maslach Burnout Inventory (MBI) and the Burnout Measure (BM). Two groups were distinguished: a “burned out” group ($n = 71$) that suffers from work-related neurasthenia (according to ICD-10 criteria), and a “non-burned out” group ($n = 68$). Results show that: (1) the validity of the three-factor structure of the MBI and the BM is confirmed; (2) burnout can partly be differentiated from other mental syndromes (e.g., anxiety and depression); and (3) two MBI-scales (Emotional Exhaustion and Depersonalization) and one BM-scale (Exhaustion) are able to discriminate between burned out and non-burned out employees. The practical implications of these results are discussed.

The current study examines burnout in a sample of employees who sought psychological treatment for their work related problems. This makes the present study rather unique. First, virtually all previous studies have been conducted at the workplace, which is not surprising since burnout is defined as a job-related syndrome (Maslach, 1993). However, as a result of this research, findings are likely to be biased because exclusively working – and thus relatively healthy – employees are included, whereas those who are ill, disabled, or who have left the organization because of work-related stress are *not* considered. Therefore, previous studies on burnout might suffer from the so-called “healthy worker effect” (Karasek and Theorell, 1990). By investigating employees who receive psychotherapeutic treatment a suchlike effect is counteracted.

Secondly, already a long time ago it has been argued that a distinction has to be made between the “Burnout Stress Syndrome” and “Burnout Mental Disability” (Paine, 1982). The former refers to a mild form of unwell-being that doesn’t prevent the employee to do his or her job – albeit it might take more effort – whereas the latter is described as “a serious, clinically relevant pattern of personal distress and diminished performances which is an

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end state of the burnout process" (Paine, 1982, p. 6). Clearly, such severe symptoms call for professional help. Instead of Burnout Stress Syndrome and Burnout Mental Disability we prefer to speak about mild burnout and clinical burnout, respectively. Due to the healthy worker effect it is likely that only mild symptoms have been studied so far, thus neglecting the more severe symptoms (i.e., clinical burnout). By investigating employees who are treated for burnout the focus is shifted to clinical burnout.

Our study investigates the validity of the two most frequently used burnout self-report questionnaires in a sample of employees who are being treated psychologically because their mental problems interfere with their jobs. Roughly half of the sample suffers from clinical burnout, the other half received various diagnoses such as mood disorder or panic disorder. More specifically, three issues are addressed:

1. The key *psychometric properties* of both instruments. It cannot be ruled out that these properties, such as the factor-structure, differs between samples with mild and clinical burnout, or between those with clinical burnout or with other remaining diagnoses. For instance, in a somewhat similar vein, it has been found that the factor-structure of the Beck Depression Inventory – a widely used instrument to assess depressive symptoms, differs between patients suffering from depressive disorder compared to patients with other psychiatric diagnoses (Startup *et al.*, 1992; Weckowitz *et al.*, 1976).
2. The *specificity* of the burnout instruments. It cannot be ruled out that among those who suffer from clinical burnout, other mental syndromes (e.g., depressive disorder) have developed. Hence, demonstrating the discriminant validity of the burnout instruments in a sample with severe symptoms would present a strong case for the often debated distinctiveness of the burnout syndrome (Maslach and Schaufeli, 1993).
3. *Individual assessment criteria* of the burnout instruments. It is investigated whether or not both instruments can be used for the purpose of individual assessment. Are they able to discriminate between those with clinical burnout and with remaining diagnoses? If so, cut-off points can be proposed that allow a valid distinction between mild burnout and clinical burnout. So far, such clinically validated cut-off points do not exist for either instrument. The remainder of this section elaborates on the three issues mentioned above.

THE MEASUREMENT OF BURNOUT

Recently, Schaufeli and Enzmann (1998, p. 71) showed that the *Maslach Burnout Inventory* (MBI; Maslach and Jackson, 1986; Maslach *et al.*, 1996) is by far the most popular instrument to assess burnout: over 90% of the journal articles and dissertations used the MBI. The second most widely used instrument is the *Burnout Measure* (BM; Pines and Aronson, 1981, 1988) that is employed in about 5% of all studies on burnout.

The MBI contains three scales: (1) emotional exhaustion (i.e., the draining of emotional resources); (2) depersonalization (i.e., negative, cynical attitudes toward one's recipients); and (3) personal accomplishment (i.e., the tendency to evaluate oneself positively, particularly with regard to one's work with recipients). High levels of emotional exhaustion and depersonalization, and a low level of personal accomplishment are characteristic of burnout. An impressive literature documents the psychometric quality of the MBI, particularly in human services professions (for an overview, see Schaufeli *et al.*, 1993). Internal consistencies (Cronbach's α coefficients) are usually well above .70, except in some samples for the depersonalization scale. In addition, generally the validity of the three-factor structure

of the MBI is confirmed (e.g., Bakker *et al.*, in press; Belcastro *et al.*, 1983; Byrne, 1991, 1994; Enzmann *et al.*, 1995; Fimian and Blanton, 1987; Gold, 1984; Gold *et al.*, 1989; Gorter *et al.*, 1999; Lee and Ashforth, 1990). Note that none of these studies used psychotherapeutic client samples.

The BM is an internally consistent questionnaire (Cronbach's α is usually above .90) that assesses the core element of burnout: an individual's level of physical, emotional and mental exhaustion (Pines and Aronson, 1981). Despite the fact that they never investigated its factor-structure, the test authors claim that the BM is one-dimensional (Pines and Aronson, 1981). However, more recent studies revealed a three-dimensional structure (Enzmann and Kleiber, 1989; Schaufeli and Van Dierendonck, 1993; Enzmann *et al.*, 1998) with: (1) *exhaustion* (e.g., "Being tired"; "Being physically exhausted"; "Being mentally exhausted"); (2) *demoralization* (e.g., "Feeling worthless"; "Feeling depressed"; "Feeling trapped"); and (3) *loss of motive* (e.g., "Feeling optimistic"; "Being happy"; "Having a good day" [reverse coded]).

The congruent validity of both burnout instruments was established by showing that the three BM-scales are substantively correlated ($.60 < r < .76$) with the emotional exhaustion scale of the MBI (Schaufeli and Van Dierendonck, 1993; Enzmann *et al.*, 1998). Correlations with both other MBI-scales are somewhat lower, ranging from .32 to .58. Like the MBI, the BM has never been used in a psychotherapeutic client sample before.

BURNOUT AND OTHER MENTAL DISORDERS

In her extensive review of empirical studies, Kahill (1988) has shown that burnout (as measured with the MBI and the BM) is particularly associated with various types of negative affect, such as irritability, anxiety, guilt, feelings of helplessness, and anger (see also Schaufeli and Enzmann, 1998, pp. 86–89). Most noteworthy, there is a considerable overlap between burnout and depressive symptoms. More recently, Glass and McKnight (1996) reviewed eighteen studies (total N about 4,800) on burnout (as measured with the MBI) and depressive symptoms. They concluded that: "Burnout and depressive symptomatology are not simply two terms for the same dysphoric state. They do, indeed, share appreciable variance (about 15–20% according to Schaufeli and Enzmann, 1998, p. 86. *The authors*), especially when the emotional exhaustion component is involved, but the results do not indicate complete isomorphism" (p. 33). In other words, burnout and depressive symptomatology are related but *not* redundant concepts. Mood symptoms play a major role in both syndromes, but they can nevertheless be distinguished empirically. At least this seems to be the case in samples that include working, and thus relatively healthy employees.

At a conceptual level, it has been claimed that burnout is limited to the occupational domain, at least initially, whereas depressive symptomatology is supposed to be "context-free" (Bakker *et al.*, 2000; Warr, 1987). However, it has been suggested that in more advanced stages, burnout may generalize to other domains of life as well, namely to private life and to general life satisfaction or well-being (e.g., Demerouti *et al.*, 2000; Freudenberg, 1983). This assertion is supported by the results of a study by Glass *et al.* (1993), who found that their structural equation model that depicted depressive symptomatology as an *outcome* of burnout, fitted their data better than the model that assumed depressive symptomatology to be the *precursor* of burnout.

THE ASSESSMENT OF INDIVIDUAL BURNOUT

After reviewing several definitions of burnout, Maslach and Schaufeli (1993) concluded that, despite differences in scope and precision, most definitions share five common elements: (1) there is a predominance of fatigue symptoms such as mental or emotional exhaustion, tiredness, and depression; (2) various atypical physical distress symptoms may occur; (3) burnout-symptoms are work-related; (4) the symptoms manifest themselves in "normal" persons who did not suffer from psychopathology before; and (5) decreased effectiveness and impaired work performance occurs because of negative attitudes and behaviors.

Despite the identification of these five key aspects that might be interpreted as criteria for burnout, to date, no diagnostic guidelines are available for the assessment of individual burnout. In the present study, we used the International Classification of Diseases (ICD-10) criteria for neurasthenia (WHO, 1992) as a diagnostic guideline for assessing burnout. In addition to these criteria, the outpatient's symptoms should be work-related. Hence, "*job-related* neurasthenia" was considered to be the ICD-10 equivalent of clinical burnout. According to the ICD-10 criteria, a neurasthenia diagnosis requires: (1) either persistent and distressing complaints of increased fatigue after mental effort, or persistent and distressing complaints of bodily weakness and exhaustion after minimal effort; (2) at least two of the following: feelings of muscular aches and pains, dizziness, tension headaches, sleep disturbance, inability to relax, irritability, and dyspepsia; and (3) any autonomic or depressive symptoms present are not sufficiently persistent and severe to fulfill the criteria for any of the more specific disorders in the ICD-10 classification. These criteria are more or less similar to the burnout elements (1), (2) and (4), mentioned by Maslach and Schaufeli (1993). Moreover, the additional work-relatedness criterion agrees with their element (3). Accordingly, except for poor performance (element 5), the job-related neurasthenia diagnosis agrees with all five aspects of burnout.

It follows from the item content that the MBI (emotional exhaustion) and the BM only capture the first neurasthenia criterion. In addition, the MBI assesses an attitudinal component that includes a negative attitude toward one's recipients (depersonalization) and toward one's own performance at work (personal accomplishment – *reversed*) (*cf.* Schaufeli and Van Dierendonck, 1993; Van Dierendonck *et al.*, 1994). This attitudinal component supplements the work-related neurasthenia diagnosis.

A major problem with the MBI and the BM as individual assessment tools is the lack of clinically validated cut-off points. Although Pines and Aronson (1981) claim that a BM-total score between 2 and 3 is "normal" and that a score over 5 indicates a "major crisis", no empirical evidence for such cut-off points has ever been presented. The MBI-manual, on the other hand, does present numerical cut-off points (Maslach *et al.*, 1996, p. 6). However, these cut-off points are arbitrary. The test-authors divided the normative sample – arbitrarily – into three equally-sized groups of 33.3%, assuming that the top, intermediate, and bottom-third of the samples would experience "high", "average", and "low" levels of burnout, respectively. In the MBI-manual, the authors correctly state that "... it is strongly recommended that the original numerical scores be used rather than the categorizations of low, average and high" (p. 9), and furthermore that "... neither the coding nor the original numerical scores should be used for diagnostic purposes" (p. 9). Hence, clinically validated cut-off scores for both burnout instruments still stand out.

METHOD

Participants and Procedure

The sample included all 139 outpatients from a psychotherapeutic treatment center specialized in work-related problems who were newly registered during a six month period. As part of the regular intake-procedure, *all* patients filled out a number of paper-and-pencil questionnaires (see Measures section). Consequently, then response rate is one-hundred percent. The treatment center has a multidisciplinary staff and is located in a middle-sized city in The Netherlands.

Eighty-three outpatients were male and 56 were female. Their mean age was 42 years ($SD = 9$ years) and their educational level was relatively high: 50% finished college or held a university degree. Half of the outpatients were employed in the human services (32% in education and 18% in health care); 6% was a police officer; 11% was employed in another civil servant profession; 22% was employed in private enterprises, mostly in managerial jobs; the remaining 11% held a job position in other professions. The majority of the outpatients were on sick-leave (64%), which on the average spanned a period of 5 months ($SD = 8$) prior to the admission to the treatment center. Most outpatients were referred to the treatment center by their general practitioner or their occupational physician; only few outpatients entered the center on their own initiative.

Patients were independently diagnosed by a senior psychiatrist and a clinical psychologist using the ICD-10 diagnostic guidelines (WHO, 1992). In case of disagreement, consensus was reached by discussing the patient involved. A distinction was made between those who met the ICD-10 criteria for neurasthenia *and* whose symptoms were job-related (the "burned out" group; $n = 71$), and the remaining outpatients (the "non-burned out" group; $n = 68$). This comparison group included 15 patients with a mood disorder, 21 patients with a panic disorder, four patients with an obsessive-compulsive disorder, four patients with a posttraumatic stress disorder and seven patients with an adaptation disorder that was not work-related (American Psychiatric Association, 1994). The remaining 17 patients of the comparison group suffered from a wide range of mental disorders such as bulimia nervosa, hypochondria disorder, social phobia, or somatoform disorder. Note that the two categories burned out and non-burned out are mutually exclusive. Compared to the non-burned out group the burned out group was somewhat older ($t_{(137)} = 4.51$, $p < .001$), included more men ($\chi^2_{(1)} = 15.97$, $p < .001$), more teachers and civil servants, and less health care workers ($\chi^2_{(6)} = 25.41$, $p < .001$), and was more often on sick-leave ($t_{(137)} = 14.63$, $p < .001$), although the length of their leave did not differ ($t_{(137)} = .72$, ns).

Measures

Burnout. Patients' level of burnout was assessed using the Maslach Burnout Inventory (MBI – Maslach and Jackson, 1986; Maslach *et al.*, 1996) and the Burnout Measure (BM – Pines and Aronson, 1981, 1988). The MBI consists of three scales: *emotional exhaustion* (9 items), *depersonalization* (5 items), and *personal accomplishment* (8 items). In the Dutch version, however, two items (No's 12 and 16) were deleted because of insufficient psychometric quality (Byrne, 1994; Schaufeli and Van Dierendonck, 1993). The scoring ranged from 0 "never" to 6 "every day". In addition to the original 21-item *BM total-score*, that is included for reasons of comparability with other studies, the separate *exhaustion* (6 items¹),

¹ Items no's 1, 4, 5, 7, 8, and 10.

demoralization (10 items²) and *loss of motive* (5 items³) sub-scales are included (Enzmann *et al.*, 1998). BM-items were scored on a 7-point rating scale ranging from 1 "never" to 7 "always". Following the convention, mean values of the BM-total score and the BM-scale scores are reported.

Symptomatology. Outpatients' mental symptoms were assessed using the Dutch version (Arrindell and Ettema, 1986) of the *Symptom Checklist 90* (SCL-90; Derogatis *et al.*, 1973). The SCL-90 is a multi-dimensional questionnaire that covers a broad range of mental symptoms clustered in eight scales, namely *Anxiety*, *Agoraphobia*, *Depression*, *Psychosomatic Complaints*, *Insufficiency*, *Interpersonal Sensitivity*, *Hostility*, and *Insomnia*. Items were scored on a frequency scale ranging from 1 "not at all" to 5 "very much". Cronbach's α coefficients of the scales range between .73 and .92 in various clinical and non-clinical groups (Arrindell and Ettema, 1986).

RESULTS

Results are presented in three sections that correspond with the previously mentioned objectives of the current study. First, results on the internal consistency and factorial validity of the MBI and the BM are described. In the next section, the discriminant validity of both burnout instruments *vis-à-vis* other mental syndromes is analyzed. In the third and final section, the clinical validity of the MBI and the BM is examined.

Internal Consistency and Factorial Validity

Table 1 shows the means, standard deviations, and internal consistencies (Cronbach's α) of the burnout scales for the burned out and non-burned out patient groups, and for the total group. The internal consistencies of the burnout scales are satisfactory; all values – except those of depersonalization (in all groups) and personal accomplishment (in the non-burned out group) – exceed the value of .70. That value has been proposed as a criterion for satisfactory internal consistency (Nunnally, 1978).

The factorial validity of the MBI and the BM was examined in a series of multi-group confirmatory factor analyses for both instruments separately. Jaccard and Wan (1996) have noted that it is not unusual for social scientists to use relative small samples in multi-group analyses, and showed that sample sizes of 50–75 per group yield acceptable levels of power for detecting group differences in regression slopes across a wide range of social science applications. The analyses were conducted with LISREL 8 (Jöreskog and Sörbom, 1993), using the AMOS computer program (Arbuckle, 1997). The maximum likelihood method was used to examine the covariance matrices of the items. In order to evaluate the fit of the factor models to the data and to allow for model comparisons, the traditional χ^2 goodness-of-fit statistic is supplemented by the Non-Normed Fit Index (NNFI), the Comparative Fit Index (CFI), and the Root Mean Square Error of Approximation (RMSEA). Contrary to the χ^2 -statistic, the NNFI and CFI are barely affected by sample size (Marsh *et al.*, 1988). For each of these statistics, values larger than .90 are generally considered acceptable (Bentler and Bonett, 1980). Values of RMSEA smaller than .08 are

²Items no's 9, 11 to 18, and 21.

³Items no's 2, 3, 6, 19, and 20 (except 2 all reversed)

Table 1 Means, standard deviations and internal consistencies (Cronbach's α) of the MBI and BM-scales in the burned out group ($n = 71$), the non-burned out group ($n = 68$), and the total group of outpatients ($N = 139$)

Scales	Burned out group ($n = 71$)			Non-burned out group ($n = 68$)			Total group ($n = 139$)		
	<i>M</i>	<i>SD</i>	α	<i>M</i>	<i>SD</i>	α	<i>M</i>	<i>SD</i>	α
MBI-Emotional exhaustion ¹	28.94	8.09	.86	22.50	9.68	.89	25.88	9.46	.89
MBI-Depersonalization	10.14	4.77	.64	8.31	4.91	.68	9.24	4.89	.67
MBI-Personal accomplishment ²	24.30	5.60	.81	24.61	4.59	.65	24.47	5.12	.75
BM-Exhaustion	4.84	.96	.90	4.50	1.24	.95	4.68	1.11	.93
BM-Demoralization	3.95	.98	.87	4.19	.86	.83	4.06	.93	.86
BM-Loss of motive	4.34	.86	.88	4.33	.82	.86	4.33	.58	.87
BM-Total	4.28	.82	.93	4.26	.84	.93	4.27	.83	.93

¹Values for item no 16 included. $M = 31.68, SD = 8.63, \alpha = .85$ (Burned out group), $M = 24.97, SD = 10.32, \alpha = .89$ (Non-burned out group); $M = 28.53, SD = 10.07, \alpha = .89$ (Total group);
²Values for item no 12 included. $M = 26.68, SD = 6.04, \alpha = .79$ (Burned out group), $M = 27.43, SD = 5.31, \alpha = .69$ (Non-burned out group); $M = 27.04, SD = 5.68, \alpha = .74$ (Total group)

indicative for an acceptable fit, whereas values close to one should lead to model rejection (Browne and Cudeck, 1993).

Results of our multi-group confirmatory factor analyses on the MBI are presented in Table 2. As can be seen, the proposed Three-Factor Model with correlations between the factors, but with no cross loadings, was found to provide a reasonable fit to the data. Furthermore, the AMOS output indicated that for the burned-out group, all 20 MBI-items loaded significantly (well beyond the $t=1.96$ criterion) on the predicted burnout factors (emotional exhaustion, depersonalization, and personal accomplishment). However, for the non-burned-out group, six items of the personal accomplishment scale did *not* load significantly on the predicted factor. It is important to note that items with identical rating scales often have measurement errors that are correlated (Byrne, 1989). Moreover, Maassen (1991) has shown that a difference in the phrasing of items has consequences for the intercorrelations between the items. Specifically, when both positively and negatively formulated items are used (as is the case in the present study), the *response set phenomenon* may occur. This means that the fit of the proposed model can be further improved if the measurement errors among the items of the sub-scales are considered. Indeed, after allowing 12 covariations between error-terms *within* the sets of negatively (emotional exhaustion and depersonalization) and positively (personal accomplishment) phrased items, the fit of the Three-Factor Model increased significantly, $\Delta\chi^2_{(24)} = 135.26$, $p < .001$. As can be seen in Table 2, the fit of the revised model is quite acceptable.

The structural equation analyses confirmed that the proposed model (without correlations between error-terms) with a NNFI of .76 and a CFI of .79 was a substantial improvement over the One-Factor Model with an NNFI of .57 and a CFI of .62, respectively. Since Two-Factor Models (e.g., the model collapsing emotional exhaustion and depersonalization into a single factor) and the proposed Three-Factor Model are nested in relation to one another, the χ^2 difference test can directly test the improvement in fit (Bentler and Bonnet, 1980). As can be seen from Table 2, the improvement in fit provided by the separation of emotional exhaustion and depersonalization is substantial, $\Delta\chi^2_{(4)} = 72.97$, $p < .001$. Comparable results were found for alternative Two-Factor Models (see Table 2). Taken together, these findings provide evidence for the Three-Factor structure of the MBI for burned-out patients, but not for non-burned-out patients.

Results of our multi-group confirmatory factor analyses on the BM are presented in Table 3. The AMOS output indicated that for both outpatient groups, all 21 BM-items loaded significantly (well beyond the $t=1.96$ criterion) on the predicted burnout factors (exhaustion, demoralization, and loss of motive). In addition, the structural equation

Table 2 Indices of overall fit for alternative factor structures of the MBI: Results of simultaneous confirmatory factor analysis for the burned out group ($n = 71$) and the non-burned out group ($n = 68$)

<i>Model</i>	χ^2	<i>Df</i>	<i>AGFI</i>	<i>RMSEA</i>	<i>NNFI</i>	<i>CFI</i>
Three-Factor Model (EE, DP, PA)	578.35	334	.66	.07	.76	.79
Revised Three-Factor Model (EE, DP, PA)	443.09	310	.70	.06	.86	.89
Two-Factor Model (EE + DP, PA)	651.32	338	.61	.08	.70	.73
Two-Factor Model (EE, DP + PA)	638.73	338	.62	.08	.71	.74
Two-Factor Model (EE + PA, DP)	726.30	338	.55	.09	.63	.67
One-Factor Model (EE + DP + PA)	789.06	340	.51	.10	.57	.62
Null Model	1548.97	380	.29	.15	–	–

Notes χ^2 = chi square, *Df* = degrees of freedom, *AGFI* = adjusted goodness of fit index; *RMSEA* = root mean square error of approximation, *NNFI* = non-normed fit index; *CFI* = comparative fit index; *EE* = emotional exhaustion, *DP* = depersonalization; *PA* = personal accomplishment

Table 3 Indices of overall fit for alternative factor structures of the BM: Results of simultaneous confirmatory factor analysis for the burned out group ($n = 71$) and the non-burned out group ($n = 68$)

<i>Model</i>	χ^2	<i>Df</i>	<i>AGFI</i>	<i>RMSEA</i>	<i>NNFI</i>	<i>CFI</i>
Three-Factor Model (EX, DE, LM)	741.62	372	.60	.09	.79	.81
Revised Three-Factor Model (EX, DE, LM)	497.89	332	.68	.06	.89	.92
Two-Factor Model (EX + DE, LM)	936.36	376	.49	.11	.68	.71
Two-Factor Model (EX, DE + LM)	813.00	376	.55	.09	.75	.78
Two-Factor Model (EX + LM, DE)	954.94	376	.48	.11	.67	.70
One-Factor Model (EX + DE + LM)	1061.52	378	.42	.12	.61	.65
Null Model	2377.86	420	.13	.19	–	–

Notes: χ^2 = chi square, *Df* = degrees of freedom; *AGFI* = adjusted goodness of fit index; *RMSEA* = root mean square error of approximation; *NNFI* = non-normed fit index; *CFI* = comparative fit index; EX = exhaustion, DE = demoralization, LM = loss of motive

analyses confirmed that the proposed model with an NNFI of .79 and a CFI of .81 was a substantial improvement over the One-Factor Model with an NNFI of .61 and a CFI of .65, respectively. As was true for the MBI, the fit of the proposed BM model could be further improved by considering the measurement errors between the negatively (exhaustion and demoralization) and positively (loss of motive) phrased items of the sub-scales. After allowing 20 covariations between error-terms, the fit of the Three-Factor Model increased significantly, $\Delta\chi^2_{(40)} = 243.73$, $p < .001$. As can be seen from Table 3, the fit of the revised model is acceptable. Furthermore, the separation between three instead of two factors results in a substantial improvement in fit. For example, the Three-Factor Model fits better to the data than the Two-Factor Model collapsing demoralization and loss of motive into one factor, $\Delta\chi^2_{(4)} = 71.38$, $p < .001$. Comparable results were found for alternative Two-Factor Models (see Table 3). Taken together, these findings provide evidence for the Three-Factor structure of the BM, that is invariant across both patient groups.

Burnout and other Mental Symptoms

In order to study the discriminant validity of the MBI and the BM, two second-order principal component analyses with varimax rotation were carried out for each of the two outpatient groups separately. In this analysis (Table 4), eight SCL-90 scales and six burnout scales were included.

Three components with Eigenvalues larger than unity emerged in the burned-out patients sample, and four components emerged in the non-burned out sample. In addition, the pattern of loadings differed between the two groups. In general, results show that burnout (particularly as measured with the MBI) can reasonably well be discriminated from other mental symptoms, but only for burned-out patients. The first component in this group can be interpreted as psychoneuroticism since almost all SCL-90 scales show high loadings on that component. Note, however, that the demoralization sub-scale of the BM also loaded on this psychoneuroticism component. In the burned-out group, the second component basically represents exhaustion with highest loadings of MBI-emotional exhaustion and all three BM sub-scales. Please note that according to the test-authors, the BM assesses physical, emotional and mental exhaustion (Pines and Aronson, 1981). The somewhat lower loadings on this component for depression, insomnia, and insufficiency of thinking and acting (e.g., concentration problems) fit into this pattern since the contents of these scales are related to fatigue and exhaustion. The third component reflects the attitudinal aspect of burnout (Schaufeli and Van Dierendonck, 1993) that is represented by depersonalization

Table 4 Varimax rotated principal component loadings of two burnout instruments (MBI, BM) and the SCL-90 for burned-out and non burned-out outpatients

Scales	Burned-Out Group (n = 71)			Non-Burned-Out Group (n = 68)			
	Factor I	Factor II	Factor III	Factor I	Factor II	Factor III	Factor IV
MBI-Emotional exhaustion	.12	.70	.39	.52	.16	.68	-.23
MBI-Depersonalization	.00	.16	.79	.00	.14	.82	.12
MBI-Personal accomplishment	.14	-.18	-.64	.00	.00	-.67	-.37
BM-Exhaustion	.22	.88	.00	.64	.32	.47	.00
BM-Demoralization	.50	.60	.37	.60	.39	.32	.29
BM-Loss of motive	.25	.74	.29	.64	.00	.24	.39
SCL-Anxiety	.81	.37	.00	.52	.69	.00	.12
SCL-Agoraphobia	.81	.18	.00	.00	.91	.25	.00
SCL-Depression	.66	.50	.27	.72	.37	.00	.38
SCL-Psychosomatic complaints	.66	.36	-.30	.65	.43	.00	.29
SCL-Insufficiency	.50	.55	.25	.76	.24	.27	.20
SCL-Interpersonal sensitivity	.77	.00	.48	.27	.37	.00	.74
SCL-Hostility	.46	.00	.68	.12	.00	.16	.79
SCL-Insomnia	.34	.45	-.15	.82	-.12	.00	.00
Variance explained	45.9%	12.8%	8.4%	44.4%	10.8%	9.5%	8.0%

and reduced personal accomplishment. The fact that hostility and interpersonal sensitivity also load on this component underscores that problems in interpersonal relations at work lie at the core of the attitudinal component of burnout.

As can be seen in Table 4, four factors emerged for the non-burned-out group. However, the factorial structure in this group is somewhat less clear compared to the burned-out group. The first component reflects exhaustion and is largely similar to the second component in the burned out group. The second component basically exists of agoraphobia supplemented with two double loadings that also load on the first factor (anxiety and psychosomatic complaints). The third component reflects burnout with high loadings of all MBI sub-scales and BM-exhaustion. Finally, the fourth component reflects interpersonal symptoms: hostility and interpersonal sensitivity.

In sum, in the burned out group the burnout construct seems to differentiate into two dimensions: (1) exhaustion and (2) negative attitudes toward one's work (DP) and toward oneself (PA). In contrast, in the non-burned-out group, a single undifferentiated burnout component emerged. Quite importantly, in both groups the burnout scales – particularly those of the MBI – can be distinguished from the SCL-90 symptom clusters. Accordingly, the discriminant validity of both burnout instruments is demonstrated *vis-à-vis* other symptom clusters.

Clinical Validity and Symptom Levels

Burnout symptom levels. Compared to the Dutch normative sample of the MBI⁴, burnout-scores are significantly higher in the present sample (see Table 1): Emotional exhaustion ($t_{(13213)} = 18.66, p < .001$), depersonalization ($t_{(13213)} = 9.46, p < .001$), and personal accomplishment ($t_{(13213)} = -1.46, p < .001$). Similar results are obtained when the outpatient's

⁴The MBI-scores in the Dutch normative sample ($N = 13,076$) are Emotional exhaustion $M = 14.24, SD = 7.29$; Depersonalization $M = 5.95, SD = 4.07$; and Personal accomplishment $M = 29.47, SD = 5.60$ (Schaufeli and Van Dierendonck, 2000).

BM-scores are compared to those of 1,405 Dutch employees from various work settings⁵: Exhaustion ($t_{(1542)} = 16.08, p < .001$), Demoralization ($t_{(1542)} = 21.13, p < .001$), Loss of motive ($t_{(1542)} = 12.69, p < .001$), and BM-total score ($t_{(1542)} = 17.71, p < .001$). Hence, as expected, outpatients score significantly higher on *all* burnout scales as compared to employees who are sampled at their workplace. This finding is suggestive for a healthy worker effect.

In order to establish discriminant validity, thus to test whether the MBI and BM-scores of both outpatient groups differ significantly, a MANOVA was carried out with all six burnout scales as dependent variables. It is expected that compared to those in the non-burned out group outpatients in the burnout group report significantly higher scores on the burnout scales. Indeed, the MANOVA resulted in a significant multivariate effect; overall, the burned out group showed higher scores than the non-burned out group, $F_{(5,129)} = 4.98, p < .001$. Subsequent univariate testing revealed significant differences on MBI-emotional exhaustion ($F_{(1,133)} = 13.82, p < .001$), MBI-depersonalization ($F_{(1,133)} = 4.45, p < .05$), and BM-exhaustion ($F_{(1,133)} = 4.16, p < .05$). *No* differences were observed on MBI-personal accomplishment, BM-demoralization and BM-loss of motive. In addition, a separate univariate *F*-test was performed with the BM total-score as dependent variable: *no* significant difference was observed between both outpatient groups, $F < 1, ns$. Thus, the clinical validity of the MBI-scales emotional exhaustion and depersonalization, and the BM-scale exhaustion is confirmed. These three scales are able to discriminate between outpatients who have been diagnosed "burnout" – according to the ICD-10 job related neurasthenia criterion – and those outpatients who have not.

Mental symptom levels. In order to assess the outpatient's levels of mental symptoms, a similar MANOVA was performed with the SCL-90. Overall, the burned out group showed *lower* levels on the SCL-90 compared to the non-burned out group, $F_{(8,123)} = 3.34, p < .001$. Additional univariate analyses of variance showed that the burned out group experienced significantly *lower* symptom levels for Anxiety ($F_{(1,137)} = 5.59, p < .05$), Agoraphobia ($F_{(1,137)} = 9.64, p < .01$) and for Depression ($F_{(1,137)} = 10.46, p < .001$).

In order to assess their relative level of mental health, both outpatient groups from the current study were separately compared with normative groups from the SCL-90 test-manual (Arrindell and Ettema, 1986). The test-manual exclusively provides separate norms for males and females so that we had to break down our sample accordingly. In addition, the manual distinguishes normative groups of psychiatric outpatients and of "normals". Compared to normals, our burned out patients (males: $t_{(488)} = 12.30, p < .001$; females: $t_{(592)} = 54.17, p < .001$) as well as non-burned out patients (males: $t_{(493)} = 15.13, p < .001$; females: $t_{(633)} = 95.28, p < .001$) show significantly *more* mental symptoms (SCL-90 total score). On the other hand, compared to psychiatric outpatients, the participants in our study show significantly *less* mental symptoms: burned out group (males: $t_{(1100)} = -4.47, p < .001$; females: $t_{(1089)} = -2.48, p < .05$) and non-burned out group (males: $t_{(1105)} = -2.00, p < .05$; females: $t_{(1130)} = -5.07, p < .001$). Despite these significant differences, the level of mental health of our patients seems more similar to that of psychiatric outpatients than to normals.

In sum: (1) symptom levels of our outpatient sample are more comparable to those of psychiatric outpatients than to normals and (2) the burned out group seems to be less "pathological" than the non-burned out group; compared to the latter group, the former group shows lower symptom levels on the SCL-90 (i.e., anxiety, agoraphobia, and depression).

⁵BM-scores are ($N = 1,405$): Exhaustion $M = 3.00, SD = 1.12$; Demoralization $M = 2.33, SD = .92$, Loss of motive $M = 3.62, SD = 1.00$, BM-total score $M = 2.91, SD = 1.15$ (Enzmann *et al.*, 1998)

Discriminant Power

To analyze differences between the two outpatient groups, two discriminant analyses were performed with the MBI and BM, respectively. With this type of analysis, the discriminant power of the burnout instruments can be assessed, i.e., the extent to which they are able to discriminate between burned-out and non-burned-out patients based on their scores on the sub-scales of the MBI and the BM. In the first analysis, the three MBI dimensions were selected for a stepwise discriminant analysis. Results revealed a highly significant separation of the two groups, Wilk's lambda = .90, $\chi^2 = 13.03$, $df = 1$, $p < .001$. One discriminant function was required for an optimal discrimination between the two groups. The standardized canonical coefficients for emotional exhaustion, depersonalization and personal accomplishment in the discriminant function were 1.0, .47, and $-.30$, respectively. In total, 64% of the sample could be correctly classified, indicating that the classification by these discriminant functions is superior to a random assignment-based on prior group membership probabilities. In the latter case 50% of the sample would have been classified correctly. Additional analyses revealed that the *sensitivity* of the MBI is satisfactory, namely .70. Sensitivity is computed as the number of burned out patients correctly classified as burned out, divided by the total number of burned out patients. The *specificity* of the prediction, computed as the percentage correctly predicted non-burned out patients, was .57. In other words, results support the discrimination of the burned out group from the non burned out group using the MBI. It should be noted that sensitivity of the MBI is much better than its specificity, which is not very impressive and slightly higher than chance level.

In the second analysis, the three BM dimensions were selected for a stepwise discriminant analysis. Again, results revealed a significant separation of the two groups, Wilk's lambda = .91, $\chi^2 = 12.05$, $df = 3$, $p < .01$. One discriminant function was required for an optimal discrimination between the two groups. The standardized canonical coefficients for exhaustion, demoralization and loss of motive were 1.15, -1.20 , and .17, respectively. In total, 65% of the sample could be correctly classified. This result is highly comparable with the result for the MBI. Again, the correct classifications outnumbered the incorrect classifications so that the discriminant power of the BM was demonstrated. Finally, the sensitivity and specificity indices for the BM were .60 and .71, respectively. Thus, compared to the MBI, the BM is more specific but less sensitive.

DISCUSSION

This study examined burnout in an outpatient setting, thus focussing on clinical burnout rather than on mild burnout symptoms. Thus far, the syndrome has exclusively been studied in samples that consist of working employees who are – by implication – relatively healthy and not suffering from clinical burnout. In contrast, the current study included individuals who have significant higher scores on all indicators for mental health – as measured by the SCL90 – compared to normals. In fact, their scores approach those of psychiatric outpatients. The general purpose of this study was to investigate the performance of the two most widely used burnout questionnaires (MBI and BM) in a sample of outpatients that sought psychotherapeutic treatment for their work related mental problems. We distinguished two – about equally sized – groups of outpatients; (1) those with an ICD-10 neurasthenia diagnosis, whose symptoms were additionally job-related – the “burned out” group suffering from clinical burnout and (2) those with

remaining diagnoses – the “non-burned out” group. Three particular issues were addressed that are discussed below.

Internal Consistency and Factorial Validity

Except for MBI-personal accomplishment in the non-burned out group, the internal consistencies of the remaining four burnout scales were quite similar compared to those found in other samples (*cf.* Schaufeli *et al.*, 1993; Enzmann *et al.*, 1998). Obviously, as in many other studies, depersonalization is less internally consistent than the other burnout sub-scales. In addition, the personal accomplishment items do not seem to constitute a homogeneous set among the non-burned-out patients.

The hypothesized Three-Factor Model of the MBI showed a superior fit in the outpatient sample compared to four alternative models that were tested as well. Although the fit of the Three-Factor Model in terms of the NNFI and CFI indices was slightly lower than the recommended criterion of .90, the values in our study were similar to those reported in other studies. For instance, Byrne (1991) studied three teacher samples and found values of .75 and .78 (intermediate educators), .80 and .82 (secondary educators), and .81 and .83 (university educators) for NNFI and CFI, respectively. Gorter *et al.* (1999) and Schaufeli and Van Dierendonck (1993) found NNFI values of .84 and .82, in samples of Dutch dentists and nurses, respectively. Thus, it seems that the Three-Factor Model of the MBI fits equally well in patient and non-patient groups. In other words, the factorial validity of the MBI could be confirmed in our outpatient sample.

However, some indications were found that the fit of the Three-Factor Model was slightly better in the burned-out group compared to the non-burned-out group. Particularly, most personal accomplishment items did not load substantially on the hypothesized dimension. Somewhat similar findings have other authors lead to dismiss personal accomplishment as a burnout dimension (e.g., Green *et al.*, 1991) or stress its “outsider” position (e.g., Leiter, 1993). Furthermore, others have argued that personal accomplishment resembles a personality trait (Shirom, 1989) or a coping resource (Koeske and Koeske, 1989), rather than being a burnout dimension. In short, it seems that personal accomplishment plays an exceptional and less central role in the burnout syndrome as compared to emotional exhaustion and depersonalization. This also seems to be the case in non-burned out patients. Hence, it cannot be ruled out that the factor structure of the burnout instruments differs slightly in our two outpatient groups.

The factorial validity of the BM was confirmed in both outpatient groups. The hypothesized Three-Factor structure with exhaustion, demoralization, and loss of motive fitted best to the data. Furthermore, all three BM sub-scales are similarly related to the MBI sub-scales and to other mental syndromes so that the use of a one-dimensional scale would have yielded about the same information. However, as discussed below, there are other reasons for using the three BM dimensions instead of a composite score.

Burnout and Other Mental Syndromes

The discriminant validity of the burnout scales *vis-à-vis* various other mental syndromes as measured by the SCL-90 was demonstrated for the BM and the MBI. That is, both burnout instruments did *not* load on a general dimension (i.e., psychoneuroticism) together with all SCL-90 scales. Instead, a differentiated pattern emerged that slightly differed between the burned-out and the non-burned out groups. In the burned-out group the burnout construct

differentiated into exhaustion (MBI-exhaustion plus all three BM sub-scales) and negative attitudes (depersonalization and personal accomplishment). A similar finding was reported by Schaufeli and Van Dierendonck (1993) in a working sample.

In contrast, in the non-burned-out group, a single undifferentiated MBI-burnout component emerged, whereas all BM sub-scales loaded highly on the first component that included 5 of the 8 SCL-90 scales as well. Hence, the discriminant validity is somewhat less convincingly demonstrated for the BM. It is likely that this is due to the fact that the BM-items – like the SCL-90-items but unlike most MBI-items – are context-free; i.e., they do *not* refer to the work situation. Recently, Enzmann *et al.* (1998) found that BM-exhaustion and BM-demoralization could also hardly be differentiated from context-free psychosomatic complaints. Thus, it seems that the BM is a *general* measure of (mental, physical and emotional) exhaustion, which – for that very reason – is related to the MBI, particularly to its emotional exhaustion scale. Burnout, as measured by the MBI, on the other hand, can be clearly distinguished from other mental syndromes such as anxiety, depression or somatic symptomatology because its symptoms are context-specific (i.e., work-related).

Perhaps these results can be explained by the fact that the burned out group consists of patients with neurasthenia, who suffer first and foremost from tiredness, exhaustion, and fatigue. This salient characteristic of the burned out group is most likely responsible for the observed separate exhaustion dimension. On the other hand, the non-burned out group is more heterogeneous as far as symptomatology and the context of symptoms is concerned. In this group, burnout seems to be somewhat less differentiated since only one second-order burnout factor emerges. Finally, in the burned out group, particular interpersonal symptoms (i.e., sensitivity or mistrust and hostility) are related to the attitudinal dimension of burnout. This points to the social origin of the burnout syndrome (*cf.* Maslach, 1993). Especially among burned out patients, negative attitudes (DP and PA) go along with symptoms that occur in social situations (interpersonal sensitivity and hostility).

Clinical Validity and Symptom Levels

Generally speaking, the MBI and the BM have a reasonable discriminative power; that is, based on the scores of these burnout instruments burned-out and non-burned-out patients can be discriminated. It should be noted that we followed a rather conservative strategy for diagnosing burnout by using quite narrow inclusion criteria: outpatients with alternative diagnoses (e.g., mood disorder, panic disorder, posttraumatic stress disorder) were *not* included in the burned out group. It cannot be ruled out that the mental symptoms of these outpatients resulted from severe job stress as well. Given this possibility, it is all the more remarkable that three burnout scales discriminate between both outpatient groups. Hence, our conservative diagnostic strategy further strengthens the validity of our findings.

As expected, burned out patients have significantly higher scores than non-burned out patients. This is quite obvious as far as the exhaustion scales (MBI-emotional exhaustion and BM-exhaustion) are concerned since the burned out group consists of neurasthenic patients, whose main characteristic are feelings of exhaustion, fatigue, and tiredness. Moreover, this finding agrees with Pick and Leiter (1991) who found that nurses who considered themselves “burned out” had significantly higher scores on the MBI-emotional exhaustion scale than nurses who diagnosed themselves as “coping well”.

It is not very surprising that BM-demoralization, BM-loss of motive, and the BM total score did *not* discriminate between both outpatient groups since BM-items are context-free in nature. It should be noted that the burned out patient group suffers from *job-related*

neurasthenia. So, the most unexpected result is that the MBI-personal accomplishment scale fails to discriminate between burned out and non-burned out patients. This might be either due to the lack of factorial validity of this particular burnout dimension or to the less central role this dimension plays in the burnout syndrome (*cf.* Leiter, 1993; Lee and Ashforth, 1996).

Furthermore, it is remarkable that the burned out group in our study seems to be less "pathological" in terms of mental syndromes and interpersonal tension than the non-burned out group. More particularly, they show lower symptom levels of anxiety and depression. Especially the latter is important since it agrees with other recent research findings that show that burnout and depression are related but *distinct* constructs (e.g., Bakker *et al.*, 2000; Glass and McKnight, 1996; Glass *et al.*, 1993; Leiter and Durup, 1994).

So taken together, compared to the non-burned out group, our burned out patients are characterized by very high levels of exhaustion, elevated levels of depersonalization, but *lower* levels of other mental symptoms (i.e., anxiety and depression). Future research has to confirm whether or not this is a typical profile of burned out individuals who seek psychotherapeutic treatment.

Practical Implications

The present study has demonstrated that particularly the MBI can be used for individual diagnostic purposes. The emotional exhaustion and depersonalization scales are able to discriminate between burnout and non-burned out patients. Based on the current study, clinically validated empirical cut-off points can be determined for the MBI which has been done for the Dutch version (Schaufeli and Van Dierendonck, 2000). However, it should be kept in mind that only nation-specific cut-off points should be used. For instance, Van Horn *et al.* (1997) showed that Canadian teachers had significantly higher MBI-burnout scores than their Dutch counterparts even after controlling for teaching experience, type of school, and hours employed. In a similar vein, Schaufeli and Van Dierendonck (1995) showed that, as a rule, MBI-emotional exhaustion and MBI-depersonalization scores are higher among North American nurses than among nurses from various European countries. It seems unlikely that the translation of the MBI can be held responsible for these systematic differences, since lower burnout scores were found in English-speaking European countries (Britain and Ireland) and higher scores were found among French-Canadian nurses.

The practical use of the BM for measuring burnout is somewhat more limited due to its context-free nature. From an assessment point of view, using the BM total-score should be discouraged since it does not discriminate between those with clinical burnout and those with remaining diagnoses. In contrast, the specificity of the three-dimensional BM (i.e., the ability to correctly identify non-burned out cases) is superior to that of the MBI so that the BM may, for instance, be used for selecting non-burned out employees for a specific anti-burnout treatment. On the other hand, the sensitivity of the MBI (i.e., the ability to correctly identify clinical burnout cases) is superior to that of the BM. Accordingly, the MBI may be used for the purpose of screening employees in order to detect clinical cases. In short, both instruments can be used complementary.

Limitations

The diagnostic criteria for burnout that have been used in the current study are not entirely beyond discussion. We decided to use job-related neurasthenia according to the ICD-10

diagnostic guidelines, because this diagnosis most closely resembles the core characteristics of burnout as described in the literature.

A possible alternative was formulated by a group of Canadian psychiatrists, sociologists and anthropologists (Bibeau *et al.*, 1989). They consider a general state of severe fatigue to be the principal subjective indicator of burnout. This might be accompanied by: (1) loss of self-esteem resulting from a feeling of professional incompetence and job dissatisfaction; (2) multiple physical symptoms of distress without an identifiable organic illness; and (3) problems in concentration, irritability, and negativism. A significant decrease in work performance over a period of several months is considered to be the principal objective indicator of burnout. Although the criteria proposed by Bibeau *et al.* (1989) are less clear-cut than those from the ICD-10, they overlap to a large extent. The most notable similarities with our job-related neurasthenia diagnosis are severe fatigue, particular physical and mental symptoms, and decreased work performance.

Although the current study is unique in its focus on clinical burnout, its results are tentative and need further corroboration because the sample size is relatively small. However, this is almost inevitably the case when investigating employees who are in the end phase of the burnout process. It seems that many employees learn how to cope with mild burnout and, fortunately, only few reach the final disabling stage. Hopefully, this article contributed to a better understanding and a better assessment of this group of clinically burned out employees.

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