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The Maslach Burnout Inventory–General Survey: validation across different occupational groups in Poland

This paper concerns the psychometric evaluation of the Polish version of a self-report questionnaire to measure burnout. Although the Maslach Burnout Inventory (MBI) is the most commonly employed measure of burnout, researchers have been troubled by some of its psychometric limitations. The aim of this study is to examine the MBI-GS factor structure in three occupational groups (both within the human services sector and elsewhere), and to evaluate its reliability (internal consistency). In evaluating factorial validity, we carried out an explanatory analysis and a number of confirmatory analyses (using the total database and the three occupational groups). An additional aim was to explore the relationships between biographic characteristics (gender, age, work experience, employment level, and occupation) and burnout. The results of the confirmatory analyses show us that all three models fit the data almost acceptably, both in the total sample (N=998) and in the separate occupational groups, and that the fit of the three-factor solution appears to be somewhat better than that of the one- and two-factor solutions. When the initial model failed to fit the data well, we had to eliminate two items with weak reliability. The results then confirmed the factorial validity of the MBI-GS—as expected, the MBI-GS consists of three scales that are moderately correlate

Keywords: burnout, MBI-GS, validation

Introduction

The most popular instrument in the world for measuring the phenomenon of burnout is the Maslach Burnout Inventory, developed in 1981 by Christina Maslach and Susan Jackson. On account of the very great interest in this issue, this instrument has been translated into many languages. By the middle nineties, when researchers from Jagiellonian University, Kraków (Schaufeli, Janczur, 1994), and subsequently Tomasz Pasikowski of Adam Mickiewicz University, Poznań produced Polish versions of the questionnaire (Pasikowski, 1996), a lively discussion had already arisen in the research community on the question of broadening the classical model of Maslach and of treating professional burnout as a phenomenon not restricted to only representatives of human service professions involved in helping people. Accordingly, in 1996 the Maslach Burnout Inventory–General Survey (MBI–GS)—intended for measuring the burnout of workers generally, regardless of their profession—was developed by Wilmar Schaufeli,

Michael Leiter, Christina Maslach, and Susan Jackson (Schaufeli, Maslach, Leiter & Jackson, 1996).

This inventory, both in its earlier version and in the version dealt with in this publication, measures burnout treated as a multidimensional construct, in agreement with Maslach's model. That model has become the most popular conception of professional burnout and has received empirical verification. According to it, burnt out workers do not only feel physically and emotionally exhausted, they also become cynical and susceptible to disappointment, they withdraw from contact with others and become increasingly convinced that their work is pointless and has little value. They begin to doubt their skills and competence, and worse, they stop respecting their clients, or simply become adverse to the people whom they are supposed to help. In working out this model, Maslach, like other authors dealing with the phenomenon, initially treated burnout as a syndrome which develops under the influence of emotionally burdensome contact with other people, such as patients, pupils, and those under their care. Stating that "burnout is a syndrome

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of emotional exhaustion, depersonalization and reduced personal accomplishment that can occur among individuals who do 'people work' of some kind" (Maslach, Jackson &Leiter, 1986, p. 1), authors underlined that the essential feature of burnout is working with others, and that it occurs exclusively among such professionals.

In recent years the conception of burnout has been modified, and above all it has begun to be treated as a phenomenon which affects members of many professions, and not only those of the human service professions: burnout is described as a crisis in one's relationship with work in general. For Maslach, burnout is rather a question of the fit or congruence between people and their jobs. It has been observed in people working with others (those who deal directly with patients, students, or clients), the blame for its development has been placed on excessive emotional burdens, and it has been rather well researched among various groups carrying out human service professions. It has thus been somewhat difficult for researchers to accept that burnout—described by Maslach as "a loss of concern for other people"—may also affect representatives of those professions in which there is a lower intensity of contact with people—for example, where the professional works not with people, but with data or things.

For Maslach, burnout is rather a question of the fit or congruence between people and their jobs. She has therefore suggested that this phenomenon is not restricted to human service professions. The authors accordingly attempted to develop a more universal concept of burnout. In the description of the three separate basic dimensions of burnout, Maslach and her collaborators used slightly redefined descriptions of the symptoms of burnout—"emotional exhaustion" was replaced by simple "exhaustion"; "depersonalization" by the more general "cynicism"; and the feeling of lack of personal accomplishment was broadened to a feeling of decreased professional efficacy at both social and non-social work (Maslach & Leiter, 2008).

The structure of the MBI–GS is similar to the earlier version. It contains three subscales: exhaustion, cynicism, and the feeling of professional efficacy. Exhaustion is understood very generally, and items have a more general form, such as "working all day is really a strain for me". The greatest difference is in the second subscale: it measures the cynical attitudes and distance from work in general, and not only toward the recipients of the service or help (although cynicism may indeed take such a form in certain professions). In both cases what is being dealt with is a dysfunctional way of coping with excessive workloads in an unsuitable environment. The items on this subscale point to a loss of engagement and a lack of enthusiasm, for example: "I have become less enthusiastic about my work". The third subscale—professional efficacy—differs least from the earlier version, although differences certainly

can be found. This scale's statements refer to a generalized feeling of competence, both in the social sphere and outside of it, for example, "In my opinion, I am good at my job".

The research conducted by Leiter and Schaufeli (1996), in which almost three thousand people employed in various professions (including technical and social professions) by Dutch enterprises took part, confirmed the three-factor structure of the instrument, which in the opinion of the researchers indicates that the phenomenon of burnout takes a similar form in human service professions as in other kinds of profession. Many authors have referred to the great psychometric value of the questionnaire, including the high reliability of all its subscales (Bakker, Demerouti & Schaufeli, 2002).

The results presented here are part of a wider research project carried out in 2009–2010 under a grant from the Polish Ministry of Science and Higher Education. The goal of the current research is to analyse the professional burnout phenomenon among people carrying out various professions, and not necessarily only social ones.

At the outset it was assumed that the results bear out the three-factor structure of the questionnaire in groups of people carrying out not only human service professions (hypothesis 1). It was possible to expect a positive correspondence between exhaustion and cynicism, and a weaker negative correspondence between the sense of efficacy on one hand and exhaustion and cynicism on the other (hypothesis 2). Exhaustion and cynicism on are key dimensions of burnout, while the feeling of efficacy, as indicated by the results to date, is a more independent dimension; exhaustion and cynicism occur together, while lack of professional efficacy is observed significantly more rarely (Maslach et al., 2001; Brenninkmeijer & Van Yperen, 2003; Lee & Ashforth, 1996). This dimension was included in the model at a later time, as a result of the factor analysis of a preliminary version of Maslach's questionnaire (Maslach, 1993). Some authors have suggested that professional efficacy reflects personal traits rather than being a component of burnout (Shirom, 2003). Research in recent years has suggested that lack of professional accomplishment may contribute to the development of burnout (Salanova, Peiró, Schaufeli, 2002), and that in this case it may be treated as an independent variable and not as a component of burnout (Bresó, 2008).

The correspondences between professional burnout and biographical variables also turn out to be interesting. Somewhat higher indicators of burnout have been observed among young people under the age of 30; they often appear at the start of a career and lessen with the growth of professional experience (Maslach et al., 1996). At the outset of the research described in the present paper, it was however expected that a significant negative correlation would be found between age or length of career on one hand, and exhaustion and cynicism on the other, on the assumption that older employees have more realistic

expectations of their work; it was also assumed that there would be a significant relationship between these demographics and professional efficacy(hypothesis 3).

There is a lack of unambiguous results on the subject of the relationship between gender and burnout (Maslach et al., 2001; Schaufeli & Enzmann, 1998). It was originally assumed that women's responses would indicate a higher level of burnout, if only because women fulfil other professional roles and occupy lower positions in professional hierarchies. However, in studies which controlled for these variables, no differences—with the exception of some differences relating to depersonalization—were observed between the sexes (Schaufeli & Buunk, 2007). When the research presented here was begun, it was assumed that there might exist differences between the sexes with regard to the three dimensions of burnout (hypothesis 4). It was expected that a higher level of exhaustion would be found among women (if only due to the additional burden of housework) and a lower level of cynicism (women, to a greater degree than men, seek fulfilment outside of professional work, and gain greater emotional support from their families; additionally, greater levels of aggression are found among men), and that men would gain higher results on the professional efficacy subscale (men more frequently obtain recognition at work: they are promoted more quickly and receive higher remuneration for their work in comparison with women employed in equivalent positions).

Additionally, it was supposed that differences in the level of professional burnout would be found between particular professional groups (hypothesis 5). Among people who work with data (information) and ideas, and among people performing human service professions, cynicism and the loss of the feeling of professional efficacy may develop more quickly, on account of the high demands on the competence of such people (most frequently requiring higher education and lifelong learning), and the great expectations placed on them, both in work and by themselves—in contrast to line workers, whose expectations with regard to work conditions are more humble, and who can more quickly see the effects of their labour.

Method

Sample

The research, which was carried out during 2009 and the first half of 2010, involved 1,016 employees of Polish firms. Listwise deletion of missing values on burnout subscales and outliers yielded a final sample of 998 participants. The respondents ranged in age from 19 to 66 years old, with an average age of 35 ($SD = 10.96$). Women comprised 55% of the sample, and men 45%. They were all working people, with various career lengths (ranging from half a year to 45 years, although 3–5 years was the largest interval,

accounting for 24% of participants). The women were on average a little bit older than the men, and connected with this, they had also had longer careers—the average age of the surveyed women was 36, while for men this figure was 34 ($t(847) = 3.59$; $p < 0.001$). Polish statistical office (GUS) data indicate that in Poland, men predominate among employees (at 57.5%), yet in the surveyed group, there is a preponderance of women. This results from the fact that the most important criterion for selecting respondents was the type of work they performed, and about two thirds of the respondents were involved in professions that are frequently dominated by women (including teachers, economists, and administrative workers). The greatest difference between the sample and the Polish working population was in age: among the respondents were more young people at the beginning of their professional career (Monitoring Rynku Pracy, Departament Pracy, GUS, May, 2010).

On the basis of their type of work, the respondents were divided into four sets: those who 1) work with people; 2) work with data; 3) work with ideas; and 4) work with things (cf. Prediger, 1999). In the group of "people activities" (PEOPLE) were placed those whose work is based on producing a change in human behaviour—such as teachers, nurses, doctors, psychologists, and sales people (247 people in total); in the group of information workers (DATA) were placed computer programmers and economists, as well as administrative workers and specialists (294 people); in the group of those who work with physical items (THINGS), were found production workers, mechanics, locksmiths, carpenters, drivers, farmers, and technicians (274 people). The final group—of people who work with concepts, abstractions, theories, and new means of expressing things (IDEAS)—contained only 39 people (including scientists, designers, and philosophers), and so it did not undergo further analysis as a separate group (except to test the fit of the model). Neither was it combined with the DATA group, because its members were younger than the rest of the sample ($p < 0.05$), and also on account of the basic purpose of this kind of work: although both the IDEA group and the DATA groups work with information, for data workers the organization and creation of databases, and the processing and verification of data in a systematic way, are the basic goals; while for those who work with ideas, the essence of their work (though they make use of data) is to create and apply knowledge. Finally, the three professional groups (PEOPLE, DATA, and THINGS) were more or less equal in size, and they possessed similar distributions of age and length of career; the only major difference between the groups was in sex distribution (see table 1), on account of the higher number of females in certain professions. Among the representatives of social professions there were more women, and similarly among the data workers there were somewhat fewer women, while among those who worked with things, men dominated.

Table 1
Sample structure.

Kind of job	Female		Male	
	Count	% female	Count	% male
Data	161	66.0%	83	34.0%
People	195	66.3%	99	33.7%
Things	81	30.9%	181	69.1%
Ideas	21	53.8%	18	46.2%
Total	458	54.6%	381	45.4%

Translation

The preparation of the Polish version began with the translation of the English version of the MBI–GS into two separate Polish versions by two translators. Then back-translation into English was performed, and we compared the original English with the back-translated versions. After discussion with a native speaker of English, a final Polish version was chosen.

Measurement

The MBI–GS questionnaire consists of 16 items comprising three scales: exhaustion (EX, 5 items, including "I feel tired when I get up in the morning and have to face another day on the job"), cynicism (CY, 5 items, including "I have become less enthusiastic about my work"), and professional efficacy (EF, 6 items, including "In my opinion I am good at my job"). In the MBI–GS questionnaire, like in earlier versions, the items constituting the exhaustion and cynicism scales are formulated negatively, while those constituting the efficacyscale are formulated positively. Respondents answer the question of how often they feel a particular way with reference to a seven-point (0–6) Likert scale, where 0 indicates "never", and 6 means "daily". The results, in accordance with the advice of the creators of the scale, are calculated separately for each of the subscales, according to the key (none of the items are reverse coded). High results on the exhaustion and cynicism subscales, and a low result on the professional efficacysubscale, point to a high level of burnout.

Apart from answering the individual items of the questionnaire, the respondents were also requested to give some information concerning background variables, such as sex, age, length of career, and profession. Because the research was carried out mostly on-site at various organizations, some individuals, out of fear losing their anonymity, did not give information that might be used to identify them (although we emphasized the confidentiality and anonymity of the data). This most frequently took place with the respondent's age and time in current job, and the systemic lack of data was found most commonly among people working with things, mainly production workers.

Analysis

We examined the factor structure using exploratory factor analysis techniques prior to working with the subscale scores, in order to reveal any weak or unsound items, and to avoid spurious correlations among subscales. The calculations were performed using the PASW Statistics 18 software. We employed principal component analysis with Varimax rotation. The number of factors was determined using a model developed by the authors of the test, with the result that the basis of the construction of the MBI was shown to be a three-dimensional model. We expected that all the test items would define in an unambiguous manner those constituents to which they were originally attributed. We also took into account the issue of "purity of measurement" (in this case this refers to whether a given item has high factor loading for one factor, and low factor loadings for the remaining two), and the degree of saturation of an item by a given factor.

The factorial validity of the MBI–GS was assessed using SEM. Evaluation of each model was based on a consideration of fit measures. We examined the data with confirmatory factor analyses using the R project's lavaan package (Rosseel, 2010). The fit of different factor models to the data was assessed using fit indices (specifically the comparative fit index (CFI) and the non-normed fit index (NNFI)), and we assessed the root mean square error of approximation (RMSEA) and the standardized root mean square residual (SRMR). CFI and NNFI values of .90 and higher indicate a close fit, and RMSEA and SRMR values of 0 indicate a perfect fit. A value less than .05 is widely considered a good fit, and below .08 an adequate fit (Cudeck & Browne, 1993).

Results

Exploratory factor analysis

The results of the exploratory factor analysis (see table 2) revealed that the identified structure of the factors is similar to that presented by Maslach and Leiter (1996), and that the particular items are most strongly connected with the original factors. Most of the test items fulfil the criteria of measure purity and saturation that we set, with the exception of item MG6 ("I feel burned out from my work"), which has a high second loading on another factor (EX and CY), and item MG13 ("I just want to do my job and not be bothered"), which did not gain a factor loading

Table 2
Loadings.

	scale	Factor1	Factor2	Factor3
MG1	exh1	**0.786**	0.165	-0.009
MG2	exh2	**0.839**	0.099	0.035
MG3	exh3	**0.756**	0.272	-0.085
MG4	exh4	**0.829**	0.155	0.018
MG6	exh5	**0.529**	**0.554**	-0.138
MG5	effic1	-0.029	0.077	**0.601**
MG7	effic2	0.100	-0.335	**0.586**
MG10	effic3	-0.023	-0.029	**0.763**
MG11	effic4	0.008	-0.194	**0.702**
MG12	effic5	0.083	-0.239	**0.636**
MG16	effic6	-0.173	0.010	**0.718**
MG8	cyn1	0.135	**0.708**	-0.065
MG9	cyn2	0.189	**0.759**	-0.145
MG13	cyn3	0.192	**0.362**	0.104
MG14	cyn4	0.116	**0.712**	-0.208
MG15	cyn5	0.124	**0.763**	-0.175

above 0.3. The hypothesis that 3 factors were sufficient was nonetheless accepted ($\chi^2(75) = 598.4$, $p < .001$).

Reliability

Firstly, the psychometric properties of the MBI–GS were tested. We considered one aspect of reliability: internal consistency. The test authors of the MBI–HSS originally reported internal consistency coefficients ranging from .71 to .90 for the three subscales (Maslach, 1993). Reliability analysis revealed that for the Polish version, the internal consistencies are quite good (see table 3). Since two test items (MG6 and MG13) raised certain doubts, we were interested in the reliability of the individual subscales after their removal. For the CY subscale, whose reliability was .64, Cronbach's alpha with MG13 deleted is .79 (which is above the criterion of .70 recommended for measurement instruments that have already been developed). For the EX subscale, the elimination of MG6 slightly improved its reliability from .82 to .85. This item had the highest factor loading (.81) in the normative sample of MBI–HSS, but because in our study it loaded two factors, we consider that it is worth removing—despite the fact that the reliability coefficient meets the criterion recommended for established scales. Deletion of this item increases the theoretical validity of the instrument, as was mentioned when the results of the exploratory analysis were presented.

While we have reported satisfactory alpha values for all three scales, some researchers have reported that the cynicism (or depersonalization) subscale had the lowest alpha coefficient (Schaufeli & Van Dierendonck, 1993). As the authors of this inventory have shown, the internal consistencies of the MBI–GS are satisfactory, ranging from .73 (CY) to .91 (EX) (Leiter, Schaufeli, 1996). However,

reliability analyses performed by Schutte et al. (2000) show that the EX and EF subscales were sufficiently internally consistent, but that one CY item (MG13) should be removed in order to increase the internal consistency above the criterion of .70. This might be caused by the ambiguity of the item. They suggest that a high score may indicate disengagement and social isolation, because respondents have cut themselves off from unnecessary contact with co-workers; it may however also indicate strong motivation and work engagement, as a result of respondents concentrating on their work and not welcoming interruptions (Schutte et al., 2000). Because it had loadings of lower than .3, we excluded it from further analysis.

Other researchers (Leiter & Schaufeli, 1996; Storm & Rothmann, 2003) also suggest that some items should be eliminated, because they are ambiguous and thus unsound—for example Bresó (2008) eliminated MG13 from the Student Survey version of the MBI ("when I am in class or I'm studying I don't want to be bothered"). Maslach et al. (1996) also suggested that future studies should omit two MBI–HSS items because of their ambiguity in factor loading patterns.

We can therefore state that after deleting MG6 and MG13 all the subscales of the MBI–GS are internally consistent.

Confirmatory factor analysis

To examine factorial validity, we assessed the fit of different models (that is, the one- and two-factor models, along with the originally hypothesized three-factor models, in which each of the 16 items loads on its intended subscale or factor, and then the three-factor model which omit MG6, MG13, and both MG6 and MG13) to identify which models best fit the data in our study. First, we assessed the fit of the one-factor solution—which assumes that all three aspects of burnout load are on one underlying dimension—as well as the fit of the two and three factor solutions, which assume that the two or three aspects of burnout (EX, CY and EF) are independent yet correlated factors (mean scores, standard deviations, and intercorrelations for each subscale are presented in table 4). In other words, we investigated whether work burnout is a three dimensional construct, or whether it has another factorial structure. Our results (table 4) show that the fit of the three-factor solution appears to be somewhat better than that of the one- and two-factor solutions, which additionally confirms our hypothesis (H1).

Confirmatory factor analyses show that the hypothesized three-factor structure of the MBI–GS is (slightly) superior to the one- and two-factor models. Since this analysis demonstrated a lack of good fit to the data for the original model, we removed the two ambiguous items from the MBI–GS (MG6 and MG13) in two separate steps and re-examined the respecified model for fit. Each step resulted

Table 3
Alpha coefficients for subscales, and alphas after removing subsequent items.

Variable	Reliability	Reliability after removing subsequent items
EX	.819	.822, .815, .816, .811, .848
EF	.736	.755, .737, .714, .711, .726, .726,
CY	.641	.675, .624, .787, .662, .642

EX = exhaustion, CY = cynicism, EF = professional efficacy

Table 4
Indices of overall fit for alternative factor structures of the MBI–GS.

Fit index	One factor	Two factors	Three factors			
			full	w/o MG6	w/o MG13	w/o MG6, MG13
χ^2 (df)	2830.9 (104)***	636.6 (44)***	998.9 (101)***	5076 (105)***	916.6 (87)***	637.4 (74)***
CFI	.52	.81	.84	.86	.85	.88
NNFI	.44	.76	.81	.85	.82	.86
AIC	56769	38216	54933	51570	50749	47383
RMSEA	.162	.116	.094	.085	.098	.087
90% CI	.157–.167	.108–.124	.089–.099	.079–.091	.092–.104	.081–.094
SRMR	.143	.128	.076	.061	.077	.060

*** - p value < .001

in an improvement in the fit of the models. The best fit turned out to be the model with the two weak items (MG13 and MG6) removed—this fits the data of the total samples reasonably well. Two of the fit indices were close to .90, although the *RMSEA* was .087. The *RMSEA* point estimate should be .05 or less, and the upper limit of the confidence interval should not exceed .08, or at worst .10 (Byrne, 2001), but in very large samples a somewhat higher value of *RMSEA* is usually observed. However the *SMRM* value was .06, so it was well within the acceptable range.

When the initial model failed to fit the data well, we also conducted the same series of confirmatory factor analyses for each professional group separately. The fit statistics are presented in table 5. An acceptable fit has been achieved in the DATA sample, but this analysis found that in each occupational group these statistics were lower than for total group. The results of the analysis for the four occupational groups turned out to be a slightly poorer fit to the data than in the total sample (the best fit for DATA subsample). However, the proposed 14-item model provided a better fit for all the subsamples than the one-factor and two-factors models.

Intercorrelations

We calculated correlation coefficients to assess how strongly the subscales were associated with each other in the Polish sample. They are comparable to those observed in other studies—the correlations observed among the MBI–GS subscales were within the range of the American test manual (Schaufeli et al., 1996, p. 24), except for the CY-EF relationship, which was slightly lower. The correlations between EX and CY ranged from .44 to .61, those between EX and EF from -.04 to -.34 (Maslach et al., 1997), and those between CY and EF were found to range from -.38 to -.57 (in our study the value was -.34). This relationship might suggest that exhaustion may play a stronger role in the development of cynicism (however, such a conclusion goes beyond the limits of this correlational analysis), as proposed by Leiter in his model of burnout as a developmental process (Leiter, 1993).

In agreement with the assumptions of the burnout model, cynicism is a reaction to excessively burdensome work demands. Distancing oneself from work is nonetheless a dysfunctional coping strategy, since it lowers engagement and leads to a worsening of professional function, and in consequence a decreased feeling of professional efficacy. The results of our research support the assumption concerning the connection between the three components of burnout (hypothesis 2). EX is positively correlated with CY, and further, CY is negatively correlated with EF (table 6).

At the same time, we had also expected a direct (negative) relationship between EX and EF, and not just a relationship indirectly through CY. The correlations between the three scales of the MBI–GS are not so strong, and there was no significant correlation between EX and EF. Application of the Sobel test for mediation found that there are significant direct paths between EX and CY, and between CY and EF, but the coefficient of the path from EX to EF was not significant (table 7). The indirect effect size was -0.12.

Biographical Variables and Burnout
An additional aim of our study is to examine the relationships between age, length of career, gender, and occupation.

Table 5
Results of confirmatory analysis for four occupational groups.

	CFI	NNFI	RMSEA (90% CI)	SRMR
Data	.886	.859	.098 (.084–.111)	.073
People	.841	.804	.100 (.088–.112)	.073
Things	.852	.818	.092 (.079–.105)	.079
Ideas	.788	.740	.152 (.113–.190)	.125

Table 7
The effect of EX on EF is mediated by the value of CY.

Mediation path	Sobel test indices	Coefficients
EX ~ CY	a	.448***
CY (EX) ~ EF	b	-.263***
EX ~ EF	c	-.078***
EX (CY) ~ EF	c'	.040 n.s.
Indirect effect = -.12, SE = .014; Z = -.8.38***		

*** - p value < .001

Age, length of career, and burnout

Hypothesis 3 predicted a negative relationship between age on one hand, and exhaustion and cynicism on the other. We also expected a positive relationship between age and professional efficacy.

The relationship between age and burnout turned out to be relevant for cynicism ($r = .081$, $p < .05$) and efficacy ($r = -.124$, $p < .01$), although as can be seen, the dependencies are weak. Length of career was connected only with the level of cynicism ($r = .072$, $p < .05$; there is dependency between age and length of career, $r = .713$, $p < .001$).

Gender and burnout

We postulated that there exist differences between the sexes with regard to the three dimensions of burnout (hypothesis 4). The results indicate, however, that there is a lack of significant difference across the genders in levels of exhaustion and the feeling of professional efficacy. The differences in the level of burnout affected only one dimension of burnout, namely cynicism. On this measure, women gained somewhat lower results ($M = 1.93$, $SD = 1.15$) in comparison to men ($M = 2.09$, $SD = 1.27$). Higher results were found for men on the cynicism scale ($t(981) = 1.97$, $p < .05$), although the size of the effect is not great—Cohen's $d = .13$, effect size $r = .06$.

Also, instead of comparing all men in the sample with all women, it was interesting to compare just the gender make-up of those who had achieved a high professional position. To this end, the group of people who occupied managerial positions or who were owners of firms were considered separately. In the surveyed population this constituted 193 people, of whom 101 were women and 92 men. Women fulfilling managerial functions were a little older than the male managers who were compared with them ($t(188) = 2.05$, $p < 0.05$, Cohen's $d = .30$). The average age for women was 41 ($M = 40.88$, $SD = 11.78$), while for male managers it was 37 ($M = 37.37$, $SD = 12.04$). The women also had longer career histories, although these differences

did not turn out to be statistically significant: in the case of women this was 13.34 years ($SD = 11.53$), while for men it was 9.95 years ($SD = 9.9$). In this subgroup there were no differences between sexes in the level of burnout in any of the dimensions.

Differences in the level of burnout between professional groups

We expected differences in the level of professional burnout between particular professional groups (hypothesis 5). From these analyses we have excluded those who work with ideas (IDEA), on account of the size of this subgroup.

The results of the one-factor analysis of variance (ANOVA) only partly supported the hypothesis. Between the individual professional groups, significant differences in the level of burnout on the exhaustion ($F(3, 850) = 4.48$, $p < .01$) and cynicism ($F(3, 850) = 3.1$, $p < .05$) subscales occurred. As the post hoc analyses carried out using Tukey's HSD test showed, production workers significantly differed from the two remaining groups in feeling more exhausted ($M_{THINGS} = 2.71$, $SD = 1.36$), as did those who work with data ($M_{DATA} = 2.3$, $SD = 1.21$); the same was true for cynicism ($M_{THINGS} = 2.13$, $SD = 1.22$, $M_{DATA} = 1.85$, $SD = 1.14$).

These professional groups did not however differ significantly in their feeling of professional efficacy.

The group of social services workers does not differ from the remaining two groups in the level of burnout, which confirms the assumption that professional burnout does not so much result from the specific nature of working with people, but rather a mismatch between the work and the worker (Maslach, Leiter, 1996; Chirkowska-Smolak, 2009).

Table 6
Means, standard deviations, and intercorrelations for exhaustion, cynicism, and professional efficacy.

Variable	M	SD	Correlation with latent variable	CY	EF
EX	2.66	1.35	.90	0.377***	-0.057
CY	1.69	1.29	.92		-0.344***
EF	4.354	0.96	.88		

*** - p value < .001; EX = exhaustion; CY = cynicism; EF = professional efficacy

Discussion and Conclusions

Regarding the psychometric properties of the MBI, the internal consistencies all meet the standard of .70. Our psychometric results confirm the factorial validity of the MBI–GS—as expected, the MBI–GS consists of three scales that are moderately correlated. The 3-factor structure of the MBI–GS (with minor modifications) was validated. The three-dimensional model fit increased when items MG6 and MG13 were omitted, providing a mediocre but acceptable fit. These results indicated that the proposed three-factor structure of the MBI–GS based on 14 items could be replicated in the total sample, as well as across different occupations.

The results of the present research are generally in accordance with most of the previous studies that have examined the factorial validity of MBI–GS. The factor structure of the MBI–General Survey has been confirmed in a number of recent studies using multi-groups or comparing various national samples (Bakker, Demerouti & Schaufeli, 2002; Leiter & Schaufeli, 1996; Schutte et al., 2000). We should however emphasize that our results have given only modest support for the three subscales. The degree of misfit observed in the hypothesized three-factor model is not unlike that reported by other researchers who examined the factorial structure of the MBI, and is like that reported in the other Polish study conducted by Pasikowski (GFI of .87 and AGFI of .84) (Pasikowski, 1996).

Psychometrically speaking, we are dealing with an instrument that is composed of three separate dimensions, although for practical purposes practitioners want the three factors to be collapsed into one—which would justify using a composite burnout score (one based on the scores from the three separate dimensions). It seems more appropriate to think of burnout not as a unitary phenomenon, but rather as three separate concepts.

In future research it would be worth paying more attention to the way in which the particular test items are formulated, as suggested by, for example, Demerouti et al. (2001). They have argued that phrasing all of the items within subscales in the same direction might have yielded an artificial clustering of factors due to positively and negatively worded subscales.

Biographical variables, however, did not turn out to be as relevant to the explanation of the burnout phenomenon as we had expected. Although certain relationships were statistically relevant, it is in practice difficult to appreciate their significance (if only on account of the size of the sample, and the fact that the differences do not exceed one standard deviation). A weak relationship exists which indicates that young workers have a slightly less cynical approach to work, and that the feeling of professional efficacy increases with age. Yet Schaufeli and Buunk recommend caution in drawing conclusions from this research and, referring to the research of Robert Karasek on stress in work, they suggest that people who experience burnout may stop working in that profession, so among more senior workers there can be found individuals who are relatively healthy (the so-called healthy worker effect). The reason for authors' caution is that the results of the research he performed in the Netherlands showed a significantly greater incidence of burnout among older employees than among the American employees surveyed by Maslach. Schaufeli and Buunk attempted to explain this discrepancy with the lower tendency of European employees to change jobs (Schaufeli & Buunk, 2007). Turning to another biographical variable, gender, we see small difference in the level of cynicism, as men distance themselves somewhat more from their work; this difference disappears when we analyse the differences between men and women controlling for their professional situations (e.g. in the group of people who occupy high professional positions). This indicates that for explaining burnout, organizational variables or occupational groups might be more significant than biographical variables.

In conclusion, this study provided support for the three-factor structure of the MBI–GS in a Polish sample of three different occupational groups, confirming the cross-national validity of this instrument, and demonstrating that burnout is not limited to human service professions. Given the results of this study, we can recommend the Polish version of the MBI–GS (based, however, on only 14 items) to assess burnout in Poland across occupations.

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