

## Original Papers

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Teresa Chirkowska-Smolak\*

### Does work engagement burn out? The person-job fit and levels of burnout and engagement in work

*This research (N=943) examines the relationship between burnout, work engagement, and organizational factors that play an important role in the strain process (development of burnout), and in the motivational process (work engagement). The aim of the study is to test the relationships of burnout and work engagement, on the one hand, and organizational factors—job demands (workload) and job resources (control, relations with co-workers and superiors, rewards, fairness, and values)—on the other. The results of the analysis call into doubt whether burnout and work engagement are opposite poles of the same dimension, or whether they are independent, though correlated, constructs. Exhaustion and vigour are not the extremes of the same energy dimension, but in the case of cynicism and dedication, the situation is not so clear. It can be said that we are not dealing with the burnout of engagement, but rather with a change in attitude to work (increasing cynicism) on the part of people not suited to their jobs.*

**Keywords:** burnout, work engagement, six areas of worklife

The term *work engagement* initially appeared in the psychological literature in the context of professional burnout. Researchers pointed to the fact that initial work engagement is an indispensable condition for the development of burnout. However, psychologists did not develop a serious interest in this opposite pole of burnout until the mid-1990s. Engagement is defined as a “persistent, positive affective-motivational state of fulfilment in employees” (Maslach, Schaufeli, Leiter, 2001, p. 417). In contrast to people who have developed burnout, engaged employees experience a sense of energetic and emotional dedication to their work tasks, and perceive themselves as capable of coping with the demands of their work. Leiter and Maslach (2005) posit that the psychological relation between the individual and work can be conceptualised on a continuum between the negative experience of burnout and the positive experience of engagement. These authors distinguish three independent dimensions of the continuum: exhaustion-energy, cynicism-involvement, and inefficacy-efficacy, which refer to the three main symptoms of burnout.

Later, the term engagement came to be used in a slightly different sense: W. Schaufeli and collaborators (Schaufeli, Salanova, González-Romá and Bakker, 2002, p. 74) defined engagement as a “positive, fulfilling work-related state of mind characterised by vigour, dedication to work and absorption”. The authors also treat engagement as a multidimensional construct, but they label the dimensions differently. Vigour is characterised by high levels of energy and mental resilience while working, the willingness to invest in one’s work, and persistence. Dedication incorporates feelings of significance, enthusiasm, inspiration, and pride, as well as the perception of events at work as challenges. Absorption refers to being fully concentrated and totally engrossed in work, so that time passes quickly and the employee has difficulty in detaching from the work (Schaufeli et al., 2002). The difference in both approaches refers to the third dimension—burnout is associated with decreased work efficacy, whereas engagement, according to Schaufeli et al., is associated with absorption. Accordingly, the dissimilarity of the constructs would be determined by those scales which hypothetically do not constitute an opposition to each other

\* Institute of Psychology, Adam Mickiewicz University

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(lack of professional efficacy and absorption), but what is the situation in the case of the first two scales, which are supposedly in opposition to each other? Theoretically, the first two dimensions of burnout and engagement were supposed to be direct opposites, creating the dimensions of activation/energy (ranging from exhaustion to vigour) and identification (cynicism-dedication) (Schaufeli et al., 2002; Leiter, Maslach, 2005).

If one accepts the notion of the bipolarity of the dimensions of burnout and engagement, it can be assumed that the same factors which influence the development of burnout will be responsible for building and sustaining engagement. The authors of various studies identify similar factors leading to burnout: high qualitative and quantitative job demands, lack of autonomy and support, poor interpersonal relations, role conflict, and value conflict (Chirkowska-Smolak, 2009). Maslach and Leiter (1997), in their description of the organizational context of burnout, resorted to the person-environment fit model (van Harrison, 1987), taking as their starting point the assumption that a more precise fit between the person and the job is conducive to better adaptation and less stress. The burnout model, wherein a key role is played by the level of perceived balance, assumes that the greater the perceived mismatch between employees and their work settings, the higher the likelihood of burnout, and vice versa, the better the fit, the more likely it is that the employee will be involved in the work. Maslach and Leiter (2004) identify six areas of the work environment as most relevant to the relationships people develop with their work: 1) workload (too much work, insufficient resources); 2) control (meticulous control, inability to exert influence, responsibility without power); 3) reward and recognition (inadequate pay, underappreciation); 4) community (isolation, conflicts, lack of respect); 5) fairness (discrimination, favouritism); 6) values (ethical conflicts, not very meaningful work) (Maslach, Leiter, 2004).

Bakker, Demerouti, and Schaufeli, on the other hand, proposed that burnout and engagement should be explained on the basis of Karasek's expanded model of stress (job demands-control/support (JD-CS), or on a broader scale, job demands-resources (JD-R)) (Bakker, Demerouti, Schaufeli, 2003; Bakker, Demerouti, 2007). The results confirm the role of demands at work (in this case workload) and of poor resources (e.g. lack of support on the part of co-workers and supervisors, lack of control, value conflict) in developing burnout. The research by Schaufeli and Bakker (2004) demonstrated that engagement was linked to job resources but not to job demands, whereas burnout was related to both these groups of organisational factors. There are an increasing number of studies confirming this schema of relations: engagement is associated with resources but not with demands, while in the case of burnout both these factors are significant (Hakanen, Roodt,

2010; Bakker, Albrecht, Leiter, 2011). The authors viewed resources mainly with reference to the relationship between engagement and rewarding relations with co-workers and supervisors (e.g. May, Gilson and Harter, 2004), or additionally with reference to autonomy and development (Demerouti et al., 2001). Yet it is worth incorporating a broader spectrum of resources, in particular values and reward-recognition, with which Maslach and Leiter (2004) proposed to account for burnout.

It can be inferred that the relationship between burnout and engagement is more complicated than has been posited at the conceptual level. On the other hand, the issue has been less frequently analysed than might have been expected, considering its significance. Halbesleben, who undertook meta-analysis of the relations between the dimensions of burnout and engagement, pinpointed that the amount of data on the issue is insufficient to make the findings of the meta-analysis fully reliable (Halbesleben, 2010). Although in recent years, the number of studies concerning engagement has increased dramatically, research has often produced ambiguous results and contradictory conclusions, even when formulated by the same authors. At present there is an ongoing debate devoted to the questions of how to define engagement, whether engagement is the opposite of burnout, and how complicated the issue really is (Maslach, 2011). Some researchers also raise doubts about the factorial structure of, or the existence of, the dimensions located between burnout and engagement (Schaufeli, Salanova, 2011, Schaufeli, Bakker, 2004, Gonzalez-Romá, Schaufeli, Bakker, Lloret, 2006, Schaufeli, Taris, van Rhenen, 2008). The burning out of engagement occurs if we are dealing with two poles of the same dimensions of energy and identification (at least in relation to key dimensions of burnout and engagement). In this case, any organisational intervention directed against burnout would be based on the same assumptions as intervention aimed at creating engagement among employees. However, are we really dealing with the same phenomena located between the polar opposites of burnout and engagement, or perhaps with contradictory, negatively correlated states of mind? The purpose of this article is to contribute to the debate about the model of well-being at work, and to present the results of a study conducted on the subsample of respondents whose occupations, positions, and the employing organisations varied (so far the analyses have been performed on the basis of results obtained on homogeneous samples). The occupations of the chosen respondents included both social and non-social types: technical occupations and occupations involved with organising and processing information.

## Method

### Research purpose and problems

The purpose of the research is to determine the type of relationship that obtains between burnout and work engagement, and also to identify the role played by environment variables in these phenomena. It is expected that engagement (in all three dimensions) will be positively correlated with job resources (the fit to work, in areas such as control, fairness, relations with supervisors, reward and recognition, and values) and that there will be no relation between engagement and demands (workload fit) (hypothesis 1). Burnout, on the other hand, is expected to be negatively correlated with the workload fit, as well as with resources (hypothesis 2). I also posit that different resources will be linked to burnout and to engagement; accordingly, I formulate the research question: what organisational variables are linked to these phenomena. The main research problem concerns identifying the nature of the interrelation between burnout and engagement. I assume that burnout and engagement, though correlated with each other, are independent constructs (hypothesis 3).

### Procedure and sample

The study was conducted in the years 2009–2011. 993 Polish workers employed in medium-sized and large enterprises participated in the study. Occupations ranged from social (PEOPLE, N=247, e.g. teachers, nurses, physicians, salespersons) and technical (WORK, N=294, mainly production workers) positions, to occupations involving organising and processing data (DATA, N=274, economists, IT specialists, administrative clerks, and others). The age range was 19–66 (M=35, SD=10.94), 53.3% of respondents were female, and 42.7% male. Work experience varied from 1 year to 45 years (M=7.36, SD=8.04). In order to analyse regression with the aim of identifying the role of particular organisational factors in burnout and engagement, data was used only from respondents who filled in all the tests (N=410, of which 199 participants had social occupations, while the rest worked with data and in technical jobs).

### Measurement

The Polish version (Chirkowska-Smolak, Kleka, 2011) of The Maslach Burnout Inventory-General Survey (MBI-GS; Schaufeli, Leiter, Maslach, & Jackson, 1996) was used to measure burnout. MBI-GS is a tool to assess burnout, which can be applied to all occupations. In its original English version, it consists of 16 items which make up three subscales: Exhaustion (EX, five items, e.g. *I feel used up at the end of the workday*), Cynicism (CY, 4 items e.g. *I have become less enthusiastic about my work*), and Professional efficacy (EF, 6 items formulated positively; a high result is an indicator of efficacy, e.g. *In my opinion, I am good*

*at my job*). The participants indicated their responses on a 7-point Likert scale (from 0 = never to 6 = every day). The reliability of the Polish version of the MBI-GS is good (Cronbach's  $\alpha$  exceeds 0.7). In the Polish version, one test item (MBI-GS13) included in the Cynicism subscale raised doubts in the authors of the translation. The version of the inventory used in the present study thus contains only 15 items.

Engagement has been operationalized using the Polish version of The Utrecht Work Engagement Scale (UWES), developed in 2003 by Schaufeli and Bakker. This instrument consists of 17 items. The participants assess themselves on three dimensions: Vigour (VI, 6 items, e.g. *At my work I feel bursting with energy*), Dedication (DE, 5 items e.g. *My job inspires me*) and Absorption (AB, 6 items, e.g. *I get carried away when I am working*) on a 7-point Likert scale (from 0 = never to 6 = always, every day). A study carried out within a project directed by the author of the present paper confirmed the reliability of the scale: Cronbach's  $\alpha$  for the whole scale was .92 ( $\alpha$ =.79 for the Vigour subscale,  $\alpha$ =.88 for the Dedication subscale, and  $\alpha$ =.77 for Absorption).

Organisational factors were assessed using a modified version of the Areas of Worklife Survey (AWLS) scale. This tool, constructed by Leiter and Maslach (Maslach, Leiter, 1997), is used to measure the work environment factors that may affect the development of burnout. It assesses respondents' perception of the six core areas of worklife on six subscales: Workload, Control, Reward and Recognition, Community, Fairness, and Values. The instrument consists of 36 items relating to six areas of work (29 items), and items concerning demographic variables (7 items e.g. sex, work experience, position etc.). Respondents rate subsequent statements on a 5-point scale (from 1 = 'I completely disagree' to 5 = 'I thoroughly agree'). The Polish version of the tool has been developed for the purpose of the study mentioned above. It was complemented with an additional, seventh subscale, Relations with Supervisor, which incorporates 5 items relating to management (support offered by supervisors, communication, and the application of competences). The study confirmed the reliability of the instrument, with  $\alpha$ =.82 for the whole scale (reliability of the individual subscales ranged from .78 for Fairness and for the additional subscale, Relations with Supervisor, to .84 for Workload).

### Data-analysis procedure

In order to verify the hypotheses concerning the role of particular organisational factors in burnout and engagement, a multiple regression analysis was carried out using the step-by-step method. To determine the interrelation between the key dimensions of burnout-engagement, factor analyses were conducted: specifically, exploratory and confirmatory CFA (using the maximum likelihood method). To assess the fit of particular models, the following indicators were

**Table 1**  
**Descriptive statistics and intercorrelations.**

	Mean	SD	dedication	absorption	exhaustion	cynicism	efficacy	workload	control	recognition	co-workers	fairness	values	supervisors
vigor	3.99	.96	.75**	.64**	-.38**	-.49**	.45**	.11**	.35**	.27**	.33**	.32**	.48**	.41**
dedication	3.84	1.24		.72**	-.27**	-.56**	.45**	.02	.32**	.37**	.32**	.38**	.55**	.46**
absorption	3.74	1.01			-.10**	-.36**	.32**	-.13**	.22**	.22**	.22**	.27**	.41**	.34**
exhaustion	2.51	1.3				.49**	-.10**	-.45**	-.25**	-.30**	-.26**	-.33**	-.29**	-.28**
cynicism	2.05	1.27					-.31**	-.15**	-.27**	-.36**	-.25**	-.33**	-.40**	-.32**
efficacy	4.33	.99						.06	.23**	.22**	.25**	.18**	.36**	.25**
workload	3.17	.65							.18**	.24**	.19**	.23**	.15**	.21**
control	3.44	.77								.49**	.33**	.51**	.42**	.46**
recognition	3.26	.76									.38**	.55**	.40**	.44**
co-workers	3.64	.67										.42**	.42**	.45**
fairness	3.18	.69											.53**	.64**
values	3.54	.67												.56**
supervisors	3.59	.78												

\*  $p < .05$ , \*\*  $p < .01$

calculated:  $\chi^2$ , *GFI*, *AGFI* and, taking into consideration the size of the sample, *CFI* and *TLI*. Values of the indicators above .90 were considered to be indicative of the good fit of the model (Hu, Bentler, 1999). Additionally, *RMSEA* indicator was also calculated: values above .05 are regarded as an indication of good fit, whereas the values below .08 indicate sufficient fit (although in the case of large samples it is suggested that values below .10 are sufficient, Cudeck & Browne, 1993). The assessment was performed with the use of the SPSS Statistics 19 and AMOS 20 programs.

## Results

### Descriptive statistics and correlations

Table 1 presents descriptive statistics and the results of the correlations between particular dimensions of burnout, engagement, and fit in the seven areas of work. The mean burnout level in the studied group was high as judged by the test manual (Maslach, Jackson, Leiter, Schaufeli, Schwab, 1996), while in the case of engagement, the mean results did not exceed the average results (Schaufeli, Bakker, 2003).

The comparison between occupational groups demonstrated that they differed in terms of the level of exhaustion  $F(3, 838)=4.65$ ,  $p < .01$  and cynicism  $F(3, 838)=3.45$ ,  $p < .05$ . A closer look at the results (post hoc analysis) showed that the differences concerned two occupational groups (those working with data and those working with things) such that people working in technical occupations revealed higher levels of exhaustion ( $M_{DATA}=2.28$ ,  $M_{THINGS}=2.70$ ) and cynicism ( $M_{DATA}=1.83$  a  $M_{THINGS}=2.14$ ). These employees also differed from the remaining groups in their fit levels—they were characterised by a lower level of autonomy, they felt underpaid, and they perceived their relations with co-workers as being

poorer. Individuals in social professions did not differ from the other groups in terms of burnout level. There was no difference between groups in terms of the level of work engagement or of work fit. This shows that treating burnout as a phenomenon occurring only among representatives of social occupations is unjustified, and that burnout is to a higher degree determined by the quality of the work environment.

The results of the correlations between the variables proved significant at the level  $p < 0.01$ , with only the relations between the fit of the area of workload to the dedication, and the efficacy, being statistically insignificant. Correlations between workload and the remaining subscales of engagement (vigour, absorption), though statistically significant, were low. There are mutual connections between the sense of fit in various areas of work; the most tenuous link exists between the workload subscale and the other scales. This may suggest that the division of organisational factors into demands and resources is justified, and constitutes an interesting interpretation layer for these phenomena.

The relationship between variables representing the opposite poles of the levels of energy/activation and identification, although important, was weaker than the relation between the subscales of the same construct, which was evident in particular for exhaustion and vigour. This might mean, on the one hand, that burnout and engagement on two key subscales are not the polar opposites of energy and identification, but are rather incorporated in independent, though negatively correlated, constructs. On the other hand, we might be witnessing a situation in which some of the participants of the study feel neither burnt out nor involved (in other words, they simultaneously obtain results indicating low levels not only of exhaustion and vigour, but also of cynicism and dedication). Comparing the

**Table 2**  
**Results of regression analysis (step-by-step method).**

outcome variable	predictor variable	$\beta$	std. err	std. $\beta$	p	semipartial r
exhaustion	workload	-.74	.07	-.43	.001	-.42
	reward and recognition	-.27	.08	-.17	.001	-.15
	relations with supervisor	-.18	.07	-.11	.014	-.10
Adj.R <sup>2</sup> = .29 F (3, 406) = 57.52 p < .001						
cynicism	reward and recognition	-.59	.08	-.34	.001	-.31
	values	-.44	.09	-.24	.001	-.21
Adj.R <sup>2</sup> = .25 F (2, 407) = 68.85 p < .001						
efficacy	values	.30	.08	.21	.001	.18
	control	.18	.07	.14	.015	.11
	reward and recognition	.17	.07	.13	.020	.11
Adj.R <sup>2</sup> = .14 F (3, 406) = 23.96 p < .001						
vigor	values	.23	.07	.18	.001	.15
	reward and recognition	.18	.07	.16	.003	.13
	relations with supervisor	.17	.06	.15	.005	.12
	control	.17	.06	.14	.008	.12
Adj.R <sup>2</sup> = .24 F (4, 401) = 32.16 p < .001						
dedication to work	values	.53	.09	.30	.001	.25
	reward and recognition	.50	.08	.30	.001	.26
	workload	-.24	.07	-.14	.001	-.13
	relations with supervisor	.22	.08	.14	.004	.12
Adj.R <sup>2</sup> = .33 F (4; 401) = 51.77 p < .001						
absorption	values	.43	.07	.31	.001	.26
	workload	-.36	.06	-.26	.001	-.26
	reward and recognition	.17	.07	.13	.010	.11
	relations with supervisor	.16	.07	.13	.017	.11
Adj.R <sup>2</sup> = .23 F (4; 401) = 30.76 p < .001						

results obtained in particular dimensions (according to the norms presented in the test manual) shows that the situation where respondents score low both on the exhaustion-vigour subscales and on the cynicism-dedication subscales is extremely rare, amounting to 1.2% and 3.2% respondents respectively. The lack of a strong correlation between the dimensions may be caused by the fact that some of the respondents achieve simultaneously high scores on the compared subscales: in the case of cynicism-dedication, 12.9% scored highly, while in the case of exhaustion-vigour, as many as 30.1% of participants scored high.

The intercorrelations between the results in particular areas of fit (at least moderately, in the case of resources) may provoke questions about the strength of the “pure” relation between a given variable and burnout or engagement; hence, the next step consisted is to apply regression analysis.

### Regression analysis

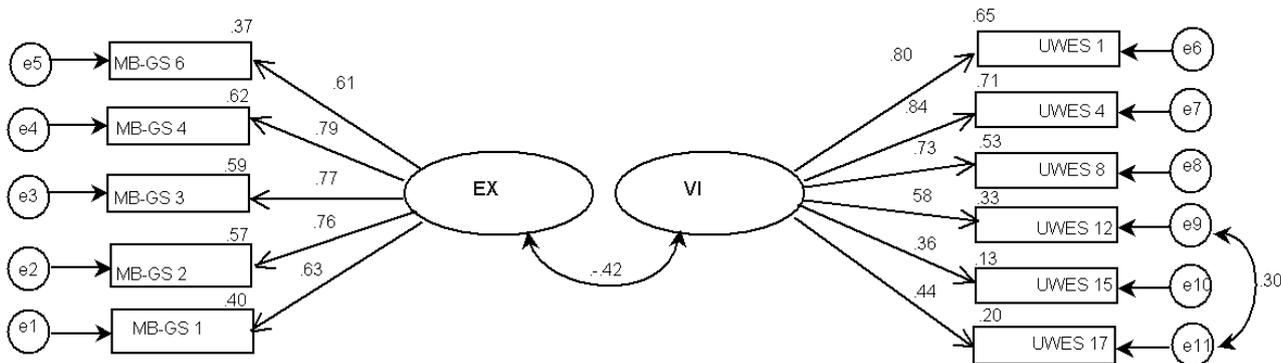
On the basis of the results of multiple regression analysis, it is possible to define the probable schema of relations between organisational factors and key dimensions of burnout and engagement. Detailed results of the regressions analysis for all subscales are presented in table 2. The interrelations between fit in particular work domains and burnout or engagement (standardised  $\beta$ ) directly concern

areas such as workload, control, reward and recognition, values, and relations with supervisor. The remaining areas (community/relations with co-workers, fairness) may be related indirectly to burnout and engagement.

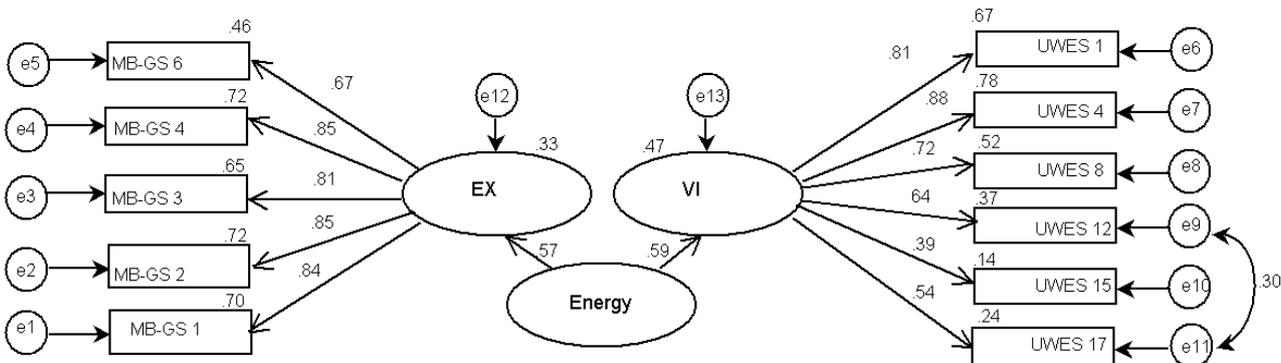
Interestingly, the character of the relations between fit in various work domains and burnout or engagement is similar. Generally, the same factors were significant for exhaustion and vigour as for cynicism and dedication to work. Although exhaustion is primarily linked to lack of fit in the area of workload, while vigour is linked mainly to the fit with values, both these dimensions are related to fit in the areas of reward and relations with the superiors. Reward and values are connected with both cynicism and dedication to work, although in the case of dedication, relations with supervisors and workload also proved significant. Reward/recognition and values proved to be the most important resources, linked to the majority of the dimensions of engagement and burnout (except for exhaustion).

Hypothesis 1, which refers to the relation between resources and engagement and to the lack of correlation between demand and engagement, was only partially supported. Two resources—relations with co-workers/community and fairness—were not deemed significant for any of the engagement dimensions; engagement is linked to fit in the five remaining areas. On the other hand,

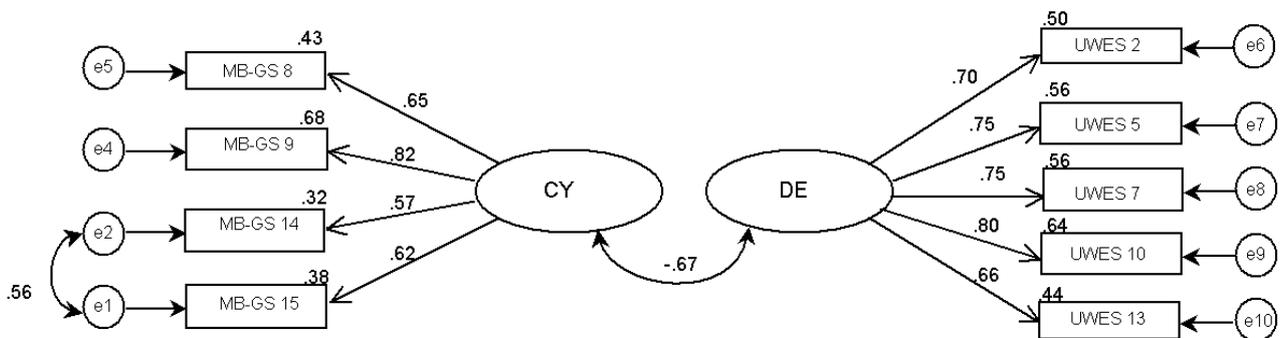
Figure 1. The analysed models of key dimensions of burnout and engagement.



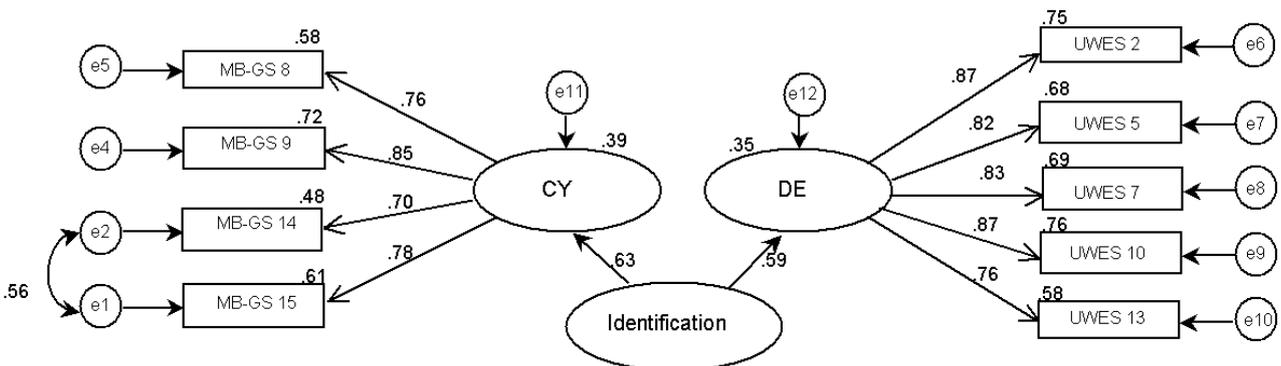
Model 1.



Model 2.



Model 4.



Model 5.

**Table 3**  
Results of exploratory factor analysis (of overall analysis and partial analyses).

the structure matrix of key dimensions of burnout and engagement								
	Components							
	1	2	3	4	1	2	1	2
vigor1 UWES 1	.72	-.18	.02	.02	-.14	.67		
vigor2 UWES 4	.76	-.15	-.12	.22	-.14	.81		
vigor3 UWES 8	.69	-.31	-.20	.13	-.33	.68		
vigor4 UWES 12	.49	-.08	-.17	.47	-.10	.71		
vigor5 UWES 15	.10	-.17	.02	.76	-.12	.44		
vigor6 UWES 17	.25	.07	-.20	.76	.07	.67		
exhaustion1 MBI 1	-.01	.77	.17	-.02	.80	-.04		
exhaustion2 MBI 2	-.03	.84	.07	-.02	.84	-.01		
exhaustion3 MBI 3	-.21	.77	.18	-.09	.78	-.26		
exhaustion4 MBI 4	-.09	.83	.11	-.06	.83	-.10		
exhaustion5 MBI 6	-.22	.54	.53	-.07	.64	-.35		
dedication1 UWES 2	.66	-.06	-.38	.16	explained total variance: 55.96% and by factors: 29.38% and 26.58%		.73	-.35
dedication2 UWES 5	.73	.03	-.33	.21			.76	-.31
dedication3 UWES 7	.82	-.04	-.17	-.02			.83	-.15
dedication4 UWES 10	.72	-.04	-.35	.13			.79	-.31
dedication5 UWES 13	.64	.08	-.28	.17			.76	-.17
cynicism1 MBI 8	-.23	.18	.63	-.07			-.21	.68
cynicism2 MBI 9	-.35	.20	.67	-.07			-.36	.70
cynicism4 MBI 14	-.18	.12	.78	-.11			-.20	.81
cynicism5 MBI 15	-.20	.14	.81	-.04			-.20	.84
explained total variance: 63.16% and by factors: 23.96%, 15.87%, 15.4%, 7.94%							explained total variance: 65.89% and by factors: 36.18% and 29.7%	

Extraction method – Principal Component Analysis/Method of distinguishing factors – Principal Components.

Rotation method – Varimax with Kaiser normalisation.

**Table 4**  
Goodness-of-Fit Indices (Maximum-Likelihood Estimates) for the Confirmatory Factor Analyses.

Model	$\chi^2$	df	p	GFI	AGFI	CFI	TLI	RMSEA
Energy dimensions								
1. First-order factors	412.7	44	.001	.93	.89	.90	.87	.09
2. One second-order factor	959.5	44	.001	.87	.80	.75	.68	.15
3. model with orthogonal second-order factors	571	44	.001	.90	.86	.85	.81	.15
Identification dimensions								
4. First-order factors	149.2	27	.001	.97	.94	.97	.96	.07
5. One second-order factor	989.2	26	.001	.88	.79	.74	.64	.20
6. model with orthogonal second-order factors	470.6	26	.001	.91	.85	.88	.83	.14

N= 920;  $\chi^2$  - chi square, df - degrees of freedom, GFI - goodness of fit index, AGFI - adjusted goodness of fit index; CFI - comparative fit index; TLI - Tucker Lewis index; PCFI - parsimony comparative fit index; RMSEA - root mean square error of approximation;

demands were not only significant for vigour. A lack of fit in the area of workload was associated with dedication and absorption. The opposite interrelation was expected, namely one in which heavy workload would lead to a loss of energy, and would have less significance for dedication and absorption.

As the findings demonstrate, high demands, complex tasks, and high workload do not necessarily result in burnout; instead of contributing to the increase in detachment from the job, or leading to a lowering in work efficacy, they may mobilise employees and increase their identification with the work to which they are devoting so much attention.

### Factor analysis results

To test the relation between burnout and engagement in key dimensions (hypothesis 3), a factor analysis was carried out. In order to answer the question of whether it is possible to identify a four-factor structure, or if perhaps it reduces to two factors (vigour-exhaustion and dedication-cynicism), an exploratory factor analysis was conducted which took into consideration all the analysed scales, as well as partial analyses concerning comparable dimensions. A confirmatory analysis to test one and two factor models was performed in on two key scales for burnout and engagement.

### Exploratory analysis

The total variance explained by the four-factor model amounts to 63.16%, whereas the composite variance is 55.96% for exhaustion-vigour and 65.89% for cynicism-dedication to work. The results of factor analysis (factor values are presented in table 3) indicate that engagement may have a one-factor structure. The overall analysis yields the same results as the two-scale analyses. Exhaustion constitutes a separate factor. There is a small common part to both vigour and exhaustion: factor loadings above 0.3 for both subscales simultaneously concern two positions: UWES 8 (*When I get up in the morning I feel like going to work*), and its opposite on the burnout scale of MBI-GS 3 (*I feel tired when I get up in the morning and have to face another day on the job*). In the case of cynicism and dedication, all the test items on the subscales obtained factor loadings above 0.3 for both subscales. The findings of the analyses clearly point to two separate factors in the case of vigour and exhaustion, whereas in the case of cynicism and exhaustion there could be one identification factor, which would suggest that distancing and dedication are indistinguishable.

### Confirmatory factor analysis

Alternative models, in which energy and identification were treated either as independent or as composite dimensions of the same dimension creating their opposite poles, were investigated (Fig. 1).

Models 1 and 4 take into consideration latent first-order variables (the exhaustion of MBI and the vigour of UWES, as well as the cynicism of MBI and the dedication of UWES). Models 2 and 5 take into consideration one second-order factor (the dimensions of energy and identification, respectively). The "Null" model was also tested (the model with orthogonal second-order factors). Table 4 presents the goodness-of-fit indicators for the particular models.

The fit of model 1 is acceptable (although some indicators do not reach the required level of .90), while model 2 (assuming the existence of one common energy dimension) revealed lower fit results, indicating that it is a worse model. Model 3 (null) was worse than model 1 (which included correlated first-order factors). Furthermore, the

covariance between the latent variables is moderate (-.46). It can therefore be stated that vigour and exhaustion do not constitute one common energy dimension on which they are opposite poles, but rather two separate dimensions.

The fit of model 4 is good (the fit indices exceeded .95), in contrast to model 5, which was not supported. Model 6 proved to be worse than model 4. The results may suggest that cynicism and dedication are not the opposite poles of the identification dimension. However, it is worth pointing out that the covariance between the latent variables is relatively high (-.67). If we take into account a similar schema of relations between dimensions which can create common dimension of identification and organisational resources, it is difficult to develop an unambiguous confirmation of hypothesis 3, which states that cynicism and dedication do not constitute a common dimension of identification.

These interrelations have been confirmed for each occupational group. A detailed presentation of the results would, however, exceed the scope of the present paper.

## Discussion and Conclusions

Leiter and Maslach (2005) posit that the psychological relation of an individual with his or her work can be presented on a continuum between the negative experience of burnout and the positive experience of engagement, and that there is no need to develop a new instrument to assess engagement. One may wonder whether it really is justified to apply a reverse burnout scale to measure engagement. For instance, in the case of reduced efficacy, an answer of "never" to the question of perceived competence at work does not automatically mean that the respondent always feels incompetent. In other words, these are not two mutually exclusive poles of the same dimension. The correlation between items formulated in an opposite way, namely item 9 of the MBI-GS (*I have become less enthusiastic about my work*) and item 5 of the UWES (*I am enthusiastic about my job*) is significant, but not as strong as might have been expected ( $\rho(N=925) = -.456, p < .001$ ), and so does not support such an assumption. The comparison of engagement scores in the first two dimensions differs from the reversed score in the appropriate burnout subscales which, according to Leiter and Maslach should constitute the dimensions of energy (activation) and identification (e.g. the average vigour is 3.99, and the reverse level for exhaustion is 3.49).

Relations between the subscales of the same construct are stronger than the relations between the subscales constituting the opposite poles of the same activation dimension and identification dimension. Although in the case of both key subscales of burnout and engagement, the relations are significant and negative, in the case of cynicism-dedication they are stronger than in the case of

exhaustion-vigour. This supports Shirom's suggestion that vigour and exhaustion are not opposites, because although high demands at work may lead to emotional exhaustion, an employee at the same time may be vigorous as a result of the sense of having accomplished tasks well. Similarly, the findings of factor analyses indicate that, though in the case of identification we can indeed wonder whether or not we are dealing with one factor, when it comes to exhaustion and vigour these are clearly two separate dimensions. We may also distinguish other predictors of exhaustion (high demands and a lack of resources) and vigour (only resources), whereas the relations in the case of cynicism-dedication are more consistent. This supports the view that burnout and engagement do not constitute a bipolar construct, but it is worthwhile to ponder whether cynicism and dedication should be regarded as opposites. These findings are partially supported by a recent study carried out by Demerouti, Mostert and Bakker (2010). Their analyses (CFA and the nature of the interrelations with other variables) encourage us to remain careful in answering the question of whether burnout is the opposite of engagement. Their results are similar to the findings presented here: they dealt with cynicism and dedication, but not with exhaustion or vigour, as opposite poles of the same identification dimension.

Resorting to the model of demands/resources, it can be seen that the model presented here considers demands (workload) and resources (such as values, recognition, control) to be factors significant for burnout and engagement. The results of the research discussed in the present paper differ from those obtained by Schaufeli and Bakker (2004), who suggested that engagement is linked to resources, but not to demands, while burnout is related to both demands and resources. However, the observed interrelation between demands and dedication (and also absorption) seems interesting. High (though not excessive) demands can mobilise employees, though on the other hand they can also lead to workaholism. Furthermore, absorption does not necessarily mean great enthusiasm: it may refer to immersion in work, but also being engrossed in onerous work.

An insufficiency of resources increases susceptibility to burnout, but when work is rewarding, when it is recognised and rewarded, and when it makes employees feel their work is meaningful, it increases their identification with the job, and allows them to devote themselves thoroughly to it. In addition, interpersonal relations and the style of management (relations with co-workers and supervisors based on trust and the support they offer) are also significant, as they provide a sense of security and assurance that one can engage in one's work without worrying about the consequences. The findings of the analyses contained in the present article confirm W. Kahn's suggestions of 1990, describing the psychological conditions of work

engagement. Kahn did not conduct an empirical verification of his assumptions. In Kahn's view, feelings of security and meaning, and also of accessibility (the employees' feeling of having the resources needed to engage in work at their disposal) are necessary to develop engagement. Excessive demands (a lack of fit for the workload) decrease the sense of accessibility and result in the development of burnout (exhaustion). In contrast, the possibility of performing work which is meaningful (valued and recognised) in a safe social environment (good relations with co-workers and supervisors, fairness) increases dedication and prevents the development of cynicism (leads to the increase of identification with work).

In conclusion, the analyses suggest that burnout and engagement may constitute separate, though correlated, constructs, at least when we are dealing with energy/activation. This conclusion is based on the mutual relations between the main composites of both constructs (internal conformity), but also on the relations between both these phenomena and external organisational factors (external accuracy). The lack of agreement among researchers concerning the relationship between burnout and engagement stems from the fact that the relations are more complicated than initially assumed by the authors of the concept. Further (longitudinal) research is thus needed to create a well-fitting model of well-being at work, simultaneously incorporating both constructs (burnout and engagement). This would allow for a better understanding of the problem of quality at work. Organisational variables (such as workload, recognition, values, control, fairness, and community) are good predictors of employees' well-being. The present study also has practical implications: in order to prevent the development of burnout, organisations should devote their attention to the issue of employee fit to various areas of work, and should provide the resources necessary to build engagement.

## References

- Bakker, A., Albrecht, S., Leiter, M. (2011). Key questions regarding work engagement. *European Journal of Work and Organizational Psychology*, 20 (1), 4–28. doi: 10.1080/1359432X.2010.485352.
- Bakker, A., Demerouti, E. (2007). The job demands–resources model: State of the art. *Journal of Managerial Psychology*, 22, 309–328.
- Bakker, A., Demerouti, E., Schaufeli, W. (2003). Dual processes at work in a call centre: An application of the job demands–resources model. *European Journal of Work and Organizational Psychology*, 12, 393–417.
- Chirkowska-Smolak, T. (2009). Organizacyjne czynniki wypalenia zawodowego. *Ruch Prawniczy, Ekonomiczny i Społeczny*, 4, 259–274.
- Chirkowska-Smolak, T., Kleka, P. (2011). The MBI–GS: Validation across different occupational groups in Poland. *Polish Psychological Bulletin*, 42 (2), 86–94. doi: 10.2478/v10059-011-0014-x.
- Demerouti, E., Bakker, A., Nachreiner, F., Schaufeli, W. (2001). The job demands/resources model of burnout. *Journal of Applied Psychology*,

- 86, 499–512.
- Demerouti, E., Mostert, K., Bakker, A. (2010). Burnout and work engagement: A thorough investigation of the independency of both constructs. *Journal of Occupational Health Psychology, 15* (3), 209–222.
- González-Romá, V., Schaufeli, W., Bakker, A., Lloret, S. (2006). Burnout and work engagement: Independent factors or opposite poles? *Journal of Vocational Behavior, 68*, 165–174.
- Hakanen, J., Roodt, G. (2010). Using the job demands-resources model to predict engagement: Analysing a conceptual model. In A. Bakker, M. Leiter (Eds.) *Work engagement. A handbook of essential theory and research* (pp. 85–101). New York: Psychology Press.
- Halbesleben, J. (2010). A meta-analysis of work engagement: Relationships with burnout, demands, resources, and consequences. In A. Bakker, M. Leiter (Eds.) *Work engagement. A handbook of essential theory and research* (pp. 102–117). New York: Psychology Press.
- Hu, L., Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*, 1–55.
- Kahn, W. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal, 33*, 692–724.
- Lee, R., Ashforth, B. (1996). A meta-analytic examination of the correlates of the three dimensions of job burnout. *Journal of Applied Psychology, 81*, 123–133.
- Leiter, M.P. (2006). *Areas of Worklife Survey Manual (4th ed.)*. Centre for Organizational Research & Development. Wolfville, NS, Canada.
- Leiter, M.P., Maslach, C. (2000). *Areas of Worklife Survey Manual (4th ed.)*. Centre for Organizational Research & Development. Wolfville, NS, Canada.
- Leiter, M.P., Maslach, C. (2004). Areas of worklife: A structured approach to organizational predictors of job burnout. In P. Perrewe, D. Ganster (Eds.), *Research in occupational stress and well being* (pp. 91–134). Oxford: Elsevier.
- Maslach, C. (2011). Engagement research: Some thoughts from a burnout perspective. *European Journal of Work and Organizational Psychology, 20* (1), 47–52. doi: 10.1080/1359432X.2010.537034.
- Maslach, C., Jackson, S., Leiter, M. (1996). *Maslach Burnout Inventory. Manual*. Palo Alto, CA: Consulting Psychologists Press.
- Maslach C, Leiter M. (1997). *The truth about burnout*. San Francisco: Jossey Bass.
- Maslach, C., Leiter, M. (2005). Reversing burnout: how to rekindle your passion for your work. *Stanford Social Innovation Review, 4* (1), 42–49.
- Maslach, C., Leiter, M. (2008). Early predictors of job burnout and engagement. *Journal of Applied Psychology, 3*, 498–512.
- Maslach, C., Schaufeli, W., Leiter, M. (2001). Job burnout. *Annual Review of Psychology, 52*, 397–422.
- Maslach, C., Leiter, M. (1997). *The truth about burnout: How organizations cause personal stress and what to do about it*. San Francisco: Jossey-Bass.
- May, D., Gilson, R., Harter, L. (2004). The psychological conditions of meaningfulness, safety and availability and the engagement of the human spirit at work. *Journal of Occupational and Organizational Psychology, 77*, 11–37.
- Schaufeli, W., Martinez, I., Marques-Pinto, A., Salanova, M., Bakker, A. (2002). Burnout and engagement in university students: A cross-national study. *Journal of Cross-Cultural Studies, 33*, 464–481.
- Schaufeli, W., Bakker, A. (2004). Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study. *Journal of Organizational Behavior, 25*, 293–315. doi: 10.1002/job.248.
- Schaufeli, W., Salanova, M. (2011). Work engagement: On how to better catch a slippery concept. *European Journal of Work and Organizational Psychology, 20* (1), 39–46. doi: 10.1080/1359432X.2010.515981
- Schaufeli, W., Taris, T., van Rhenen, W. (2008). Workaholism, burnout, and work engagement: three of a kind or three different kinds of employee well-being? *Applied Psychology: An International Review, 57*, 173–203.
- Shirom, A. (2003). Job-related burnout: A review. In J. C. Quick, L. Tetrick (Eds.), *Handbook of occupational health psychology* (pp. 245–264). Washington, DC: American Psychological Association.
- Sonnetag, S. (2003). Recovery, work engagement, and proactive behavior. A new look at the interface between non-work and work. *Journal of Applied Psychology, 88*, 518–528.