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# Manual of the Scale of work engagement and burnout (SWEBO)

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# 1 Background

#### 1.1 Burnout

There are many definitions of burnout, and these can be divided into two categories: state definitions and process definitions. State definitions focus on the state of experiencing the central characteristics of burnout. There are several state definitions of burnout, the most famous state definition of burnout is that suggested by Maslach and colleagues (Maslach & Jackson, 1986; Maslach, Jackson, & Leiter, 1996). Burnout is defined as "a crisis in one's relationship with work, not necessarily as a crisis in one's relationship with people at work" (Maslach, et al., 1996, p. 20) and consists of three dimensions: Emotional exhaustion, Depersonalization and Reduced personal accomplishment. Emotional exhaustion is characterized by the experience of a depletion of energy and the feeling of being emotionally overextended (Maslach & Leiter, 1997; Maslach, Schaufeli, & Leiter, 2001). Depersonalization, also known as "cynicism", describes the feeling of detachment from work and from people at work and the development of cynical attitudes towards one's work (Maslach & Leiter, 1997; Maslach, et al., 2001). Reduced personal accomplishment describes an increasing feeling of inadequacy and reduced efficacy (Maslach & Leiter, 1997; Maslach, et al., 2001). Maslach and colleagues have developed the Maslach Burnout Inventory (MBI) to measure burnout (Maslach & Jackson, 1986; Maslach, et al., 1996), and this is the most frequently used instrument when studying burnout (Schaufeli, Leiter, & Maslach, 2009). The reduced personal accomplishment dimension is the dimension of the MBI that has the weakest empirical support (Schaufeli & Enzmann, 1998), and thus the exhaustion and cynicism dimensions are considered to be the "core of burnout" (Green, Walkey, & Taylor, 1991, p. 463).

Process definitions, in contrast to state definitions, focus on the process of burning out, and these definitions give the time aspect greater attention. The temporal development of symptoms related to burnout is thus central to process definitions. There are several process definitions, including, for example, those of Cherniss (1980) and Hallsten (1993). Most definitions, however, consider that burnout starts to develop when strain is experienced that is related to a discrepancy between an individual's expectations and the resources and the reality and demands of work life. Most process definitions also state that this strain develops gradually and that the individuals may or may not be aware of the development. Finally, the various coping strategies employed by individuals become crucial when it comes to the development of burnout.

It should, however, be mentioned that state and process definitions of burnout are not mutually exclusive: rather they complement each other. Schaufeli and Enzmann (1998) suggested an integrated definition of burnout that takes into account both the state and the process perspectives. Their definition incorporates central aspects of both state and process definitions and thus reflects a more integrative approach to burnout. It should also be mentioned that although Maslach and colleagues define burnout as a state, they also acknowledge that burnout involves a process. Maslach and colleagues view burnout as an erosion of engagement with one's work (Maslach & Leiter, 1997). This view assumes an initial state of work engagement, a concept that reflects a more recent direction in burnout research.

# 1.2 Work engagement

Maslach and Leiter (1997) state that one must initially be engaged in order to burn out. This view suggests that work engagement is the direct opposite of burnout, and thus a lack of burnout indicates that individuals are engaged in their work. Three engagement dimensions correspond to the three burnout dimensions: energy – exhaustion, involvement – depersonalization, and efficacy – reduced personal accomplishment. A low score on any one of the burnout dimensions thus represents a high score on the corresponding engagement dimension.

The view of work engagement suggested by Schaufeli and Bakker (2003) is probably the most predominant one. Schaufeli and Bakker see work engagement as a separate construct and not as the direct opposite of burnout, it consists of slightly different dimensions and is not assessed using scores that are the direct opposite of those of the MBI. The main difference between this perspective and the one suggested by Maslach and colleagues is the addition of the absorption dimension. Vigor and dedication are viewed as direct opposites of exhaustion and cynicism (Schaufeli & Bakker, 2003). Schaufeli and Bakker have developed the Utrecht Work Engagement Scale (UWES), for measuring work engagement (Schaufeli & Bakker, 2003). Interest in work engagement is growing and this growth reflects a new direction of burnout research towards focusing on positive rather than negative outcomes.

# 1.3 Operationalizations of burnout and work engagement

Whether one adopts a state definition, a process definition or a joint definition of burnout, all of these definitions assume that burnout is a psychological state rather than a psychological trait. The definition of work engagement suggested by Schuafeli and Bakker (2003) implies that work engagement also is viewed as a psychological state. Thus, the concept of a "psychological state" is a central part of the definitions of both burnout and work engagement.

A psychological *state* is a momentary condition experienced at a certain level of intensity occurring at any cross-section of a person's life and affected by both internal and external factors (Spielberger, 1972; Thorne, 1966). Psychological *traits*, on the other hand, are more permanent individual differences that make persons more prone to perceive the world in a particular way or to react and behave in a certain manner with predictable regularity across different contexts (Spielberger, 1972; Watson, 2000). Two important aspects of the difference between a state and a trait are context and time. A state is affected by the situation, whereas a trait is context-free. Furthermore, a state is momentary and changeable, whereas a trait is permanent and constant. Hence, specifying the context and using a period of time as a reference when measuring states is a way to distinguish whether or not a state or a

trait is being measured. The difference between state and trait might seem trivial, but this difference is often overlooked, especially this appears to be the case when it comes to the operationalizations of burnout and work engagement.

Thus, when operationalizing burnout, time, literally, is of the essence. When measuring a state it is necessary to refer to a period of time, in order to be certain that what is being assessed really is something momentary and not something permanent. The state of depression (a construct related to burnout), for example, is usually measured in this way, and respondents are generally asked about symptoms during the last two weeks or longer periods of time (Hogan, Johnson, & Briggs, 1997). When reviewing the operationalizations of burnout, however, a time reference is generally not applied, and the items in most burnout measures are more trait-like in character. It is normally specified that the subject consider his or her work context, but the aspect of time is not taken into consideration. The MBI, for example, suffers from this drawback, which reduces the accuracy and thus impairs results and conclusions based on the MBI. Furthermore, the MBI also suffers from problems concerning the psychometric properties of the instrument, which further limits its use (Bakker, Demerouti, & Schaufeli, 2002; Beckstead, 2002; Boles, Dean, Ricks, Short, & Wang, 2000; Byrne, 1991, 1994; Kalliath, O'Driscoll, Gillespie, & Bluedorn, 2000; Langballe, Falkum, Innstrand, & Aasland, 2006; Schaufeli, Daamen, & Van Mierlo, 1994; Schutte, Toppinen, Kalimo, & Schaufeli, 2000).

Reflecting upon Schaufeli and Bakker's definition of work engagement raises the question of whether the definition is based on the view of work engagement as a state or a trait. The definition states that engagement is not a momentary state but rather a persistent and pervasive affective-cognitive state. This is rather contradictory, when it is considered that a state is momentary and context-dependent, whereas a trait is permanent and context-free. Taking this into account it appears that Schaufeli and Bakker's definition of work engagement is closer to the definition of a trait than it is to the definition of a state. Furthermore, none of the items of the UWES take time into account, and the items are trait-like in character. Hence, in contrast to the claim of Schaufeli and Bakker that work engagement is a cognitive-affective state, it is concluded after examining both the definition and the items of the UWES that the operationalization of work engagement is closer to a trait than a state.

## 1.4 The Scale of Work Engagement and Burnout (SWEBO)

In an attempt to resolve these issues the work on developing an alternative instrument called the Scale of Work Engagement and Burnout (SWEBO) started during the fall of 2007. The idea was to develop a scale that captures both the state mood of burnout and the state mood of work engagement using work-related items based on adjectives. Watson (2000) defines moods as "transient episodes of feeling or affect" (p. 4) and the concept of mood is used here to characterize in more detail the meaning of state. Viewing burnout and work engagement as state moods thus means that these constructs are longer lasting rather than instant but still not permanent. In order to capture the state mood of burnout and the state mood of work engagement, the respondents were instructed to take into account only their

experiences during the preceding two weeks, a time reference often used when measuring depression (Hogan, et al., 1997). The SWEBO is presented as one instrument, but it actually consists of two separate instruments, one that measures burnout and one that measures work engagement. The two instruments can be used independently.

The burnout instrument consists of three dimensions: exhaustion, disengagement and inattentiveness. Each dimension is measured by three mood adjectives, resulting in a total of nine burnout items. The mood adjectives used to measure the three dimensions were derived from the theoretical frameworks of Maslach and colleagues (1996; 1997), Demerouti and colleagues (2001), Shirom (2003; 2006), and Watson and Clark (1994). The work engagement instrument also consists of three dimensions: vigor, dedication and attentiveness. Vigor and dedication is measured by three mood adjectives and attentiveness is measured by four adjectives, resulting in a total of ten work engagement items. The mood adjectives used to measure work engagement were derived from the theoretical frameworks of Schaufeli and Bakker (2003), and Watson and Clark (1994). The entire instrument is presented in the Appendix.

# 2 Psychometric properties of the SWEBO

The psychometric properties of the SWEBO were evaluated regarding distribution, internal consistency and factor structure. The analyses are based on a national sample of 1371 Swedish teachers who had been working for approximately two years. There were 1179 (86%) females in the sample, and the mean age of the sample was 33.0 (SD=7.4). The mean age of the females was 33.0 (SD=7.5) and the mean age of the males was 32.8 (SD=6.9).

# 2.1 Distribution of the dimensions and aggregated scales

The distributions of the separate dimensions and the aggregated scales were evaluated regarding skewness and kurtosis. The distributions of each burnout dimension and the aggregated scale are presented in Figure 1, and the distributions of each work engagement dimension and the aggregated scale are presented in Figure 2. Exhaustion, disengagement, inattentiveness, and burnout were all positively skewed and deviated significantly from normality. Vigor, dedication, attentiveness, and work engagement were negatively skewed and deviated significantly from normality.



Figure 1 Distributions of the burnout dimensions and the aggregated scale



Furthermore, the kurtosis values show that, with the exception of the inattentiveness dimension, all the dimensions and the aggregated scales deviated significantly from normality and were all leptokurtic in character.

#### Figure 2

Distributions of the work engagement dimensions and the aggregated scale

## 2.2 Internal consistency

Internal consistencies (Cronbach's alpha) for each dimension and the aggregated scales are presented in Table 1. The reliability scores for the burnout dimension ranged from .77 to .88, and the reliability of the aggregated scale was .90. The reliability scores of the work engagement dimensions ranged from .76 to .87, and the reliability of the aggregated scale was .90. The results show that the internal consistencies of the dimensions and the scales are all above the recommended cutoff value of .70 (Streiner, 2003) and that both the burnout scale and the work engagement scale are reliable measures.

#### Table 1

Reliability scores (Cronbach's alpha) of the seperate dimensions and the aggregated scales

Dimension	α
Scale	
Exhaustion	.88
Disengagement	.84
Inattentiveness	.77
Burnout	.90
Vigor	.76
Dedication	.82
Attentiveness	.87
Work engagement	.90

#### 2.3 Intercorrelations and factor structure

First the bivariate correlations (Pearson) between the dimensions of each scale were analyzed. The correlations between the work engagement dimensions ranged from .587 to .660. The correlations between the burnout dimensions ranged from .589 to .649. The correlation between burnout and work engagement was -.615. The correlations between all dimensions of the SWEBO are presented in Table 2.

Dimension	Exhaustion	Disengagement	Inattentiveness	Vigor	Dedication
Exhaustion					
Disengagement	.649**				
Inattentiveness	.601**	$.589^{**}$			
Vigor	487**	445**	452**		
Dedication	406**	466**	416***	$.600^{**}$	
Attentiveness	471**	454**	536**	.660**	$.587^{**}$

Table 2

Bivariate correlations (Pearson) between the dimensions of the SWEBO

\*\*p≤.01

The factor structure of the burnout scale and the work engagement scale was evaluated using confirmatory factor analysis (CFA) following the procedure recommended by Jöreskog (2004) for ordinal data. Since the  $\chi^2$  is sensitive to sample size additional fit indices were also used to evaluate model fit. The additional fit indices used to evaluate model fit were the root mean-square error approximation of the mean (RMSEA) to evaluate the parsimony of the model, the standardized root mean-square residual (SRMR) to evaluate the absolute fit of the model, and the comparative fit index (CFI) to evaluate the fit of the observed data relative to that of the nested baseline model. The choice of these additional fit indices was based on the recommendations of Hu and Bentler (1998), due to their sensitivity to model misspecification and sample size. The cutoff values for each fit index were chosen based on the recommendations of Hu and Bentler (1999). It is recommended that the

cutoff value for the RMSEA should be close to or lower than .06, the cutoff value for the SRMR should be close to or lower than .08, and the cutoff value for CFI should be close to or higher than .95.

Two different measurement models were tested for each scale, a unidimensional comparison model and the hypothesized model. The hypothesized model of burnout was a second-order model with one second-order factor (burnout) and three first-order factors (exhaustion, disengagement, and inattentiveness). The hypothesized model of work engagement was a second-order model with one second-order factor (work engagement) and three first-order factors (vigor, dedication, and attentiveness). The conceptual diagrams of the comparison model and the hypothesized model of burnout and work engagement are presented in Figure 3 and Figure 4.



Hypothesized model





Comparison model



Vig 1 Vig 2 Vig 3 Ded 1 Ded 2 DED

ATT

WE.

Hypothesized model

Ded 3

Att 1

Att 2

Att 3

Att 4



Comparison model and hypothesized model of the work engagement scale

The fit indices of respective model are presented in Table 3. The results clearly show that the hypothesized measurement models of both the burnout scale and the work engagement scale are superior to the respective unidimensional model. Furthermore, the results show that the two hypothesized models both have satisfactory model fit, whereas the two unidimensional models did not fit the data.

Scale	df	$\chi^2$	RMSEA	SRMR	CFI
Model					
Burnout					
Comparison model	27	288.32	.084	.167	.972
Hypothesized model	24	92.32	.046	.055	.993
Work engagement					
Comparison model	35	280.10	.071	.152	.966
Hypothesized model	32	89.49	.036	.063	.992

Table 3

Results of the CFAs for the burnout and work engagement scales.

df: degrees of freedom; RMSEA: root mean-square error approximation of the mean; SRMR: standardized root mean-square residual; CFI: comparative fit index.

The factor loadings of the items and their respective errors for both scales are presented in Table 4. The factor loadings of the items were all statistically significant, in the expected direction, and above .71, hence they all accounted for more than 50% of the explained variance in the respective item. The factor loadings between the second-order factor of burnout and the first-order factors were .90 for

exhaustion, .90 for disengagement, and .86 for inattentiveness. The factor loadings between the second-order factor of work engagement and the first-order factors were .95 for vigor, .85 for dedication, and .87 for attentiveness. The results of the analyses confirm the hypothesized factor structure of the burnout scale and the work engagement and show that both scales are psychometrically sound alternatives for measuring burnout and work engagement.

#### Table 4

Item	Burnout		Item	Work engagement	
	Factor loading	Error		Factor loading	Error
Exh 1	.93	.14	Vig 1	.89	.22
Exh 2	.96	.07	Vig 2	.86	.26
Exh 3	.94	.12	Vig 3	.78	.40
Diseng 1	.89	.21	Ded 1	.84	.30
Diseng 2	.97	.06	Ded 2	.87	.25
Diseng 3	.89	.25	Ded 3	.89	.22
Inatt 1	.87	.24	Att 1	.89	.21
Inatt 2	.78	.39	Att 2	.93	.13
Inatt 3	.88	.22	Att 3	.93	.13
			Att 4	.98	.05

Factor loadings and errors of models of burnout and work engagement.

In addition to evaluating the factor structures of the separate scales it is also of interest to evaluate whether the two scales actually measure two different constructs and not just the opposite sides of the same coin. To test this four comparison models and the hypothesized measurement model were analyzed. The hypothesized model was a second-order model with two second-order factors: burnout and engagement. The burnout factor explained the common variance among the three first-order factors (exhaustion, disengagement, and inattentiveness), and the three first-order factors explained the common variance among their corresponding items. The work engagement factor explained the common variance among the three first-order factors (vigor, dedication, and attentiveness), and the first-order factors explained the common variance among their corresponding items. The first comparison model was a unidimensional model with one first-order factor that explained all common variance among the items. The second comparison model had two first-order factors, one that explained the common variance among the burnout items and one that explained the common variance among the work engagement items. The third comparison model had three first-order factors, one that explained the common variance among the vigor and the exhaustion items, one that explained the common variance among the dedication and the disengagement items, and one that explained the common variance among the attentiveness and the inattentiveness items. The conceptual diagrams of the models are presented in Figure 5 and the fit indices of the models are presented in Table 5.

Model	df	$\chi^2$	RMSEA	SRMR	CFI
Comparison model 1	152	893.73	.060	.287	.963
Comparison model 2	151	677.29	.050	.195	.974
Comparison model 3	149	643.12	.049	.231	.976
Comparison model 4	146	2877.27	.117	.524	.865
Hypothesized model	145	350.33	.032	.112	.990

Table 5 Results of the CFAs for the SWEBO

df: degrees of freedom; RMSEA: root mean-square error approximation of the mean; SRMR: standardized root mean-square residual; CFI: comparative fit index.

Although the fit of the hypothesized model was not entirely satisfactory, the results clearly show that the hypothesized model has a superior fit compared to the alternative models. The correlation between the second-order factors of burnout and work engagement was -.74. It is thus concluded that the SWEBO measures two separate, but highly related, constructs.



Figure 5 Comparison models and hypothesized model of the SWEBO

# 3 Conclusions and recommendations for users

The results of the analyses show that the SWEBO is a psychometrically sound alternative for measuring burnout and work engagement. The internal consistency of both scales is above the recommended .70; the results of the CFAs show that the hypothesized measurement models of both scales fit the data satisfactory and that the scales measure two separate constructs.

Concerning the deviations from normality for both scales, these were not entirely unexpected considering the nature of the constructs. Furthermore, the teachers had only been working for approximately two years. Had they been more experienced, their responses would perhaps have been differently distributed. The deviations from normality might also be a consequence of the response format. Although it is stressed that a frequency response format is used, it might be preferable to increase the number of response alternatives and perhaps include a middle response alternative. This would probably increase the variability and make the responses more normally distributed.

The results are based on Swedish data. The English version of the SWEBO presented in the appendix was translated into English by a professional translator whose mother tongue is English. However, this version has not yet been used in any studies, and hence there are no psychometric evaluations of the translated version. When translating the SWEBO into other languages it is recommended that users adapt the scale to best fit the intended context rather than translating it word for word.

The SWEBO measures the state mood of burnout and work engagement. Since the state mood is context-dependent and not permanent the items were contextualized and given a time reference. Although the context of work and the time reference of two weeks are used in this version, the context can be adjusted to fit other contexts (e.g. higher education) and different time references can be used if this is judged to be more appropriate. It should, however, be noted that no evaluations have been made where the context and the time reference have been altered.

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## Appendix

- 1. English version
- 2. Swedish version
- 3. SPSS syntax for computing the dimensions and the aggregated scales of the SWEBO

1	English	version
1.	Linguisii	VEISIOII

	In the past two weeks at work I have felt				
	Mark one alternative for each row.				
		Not at all	Some of	Most of	All of the
			the time	the time	time
		1	2	3	4
(Vig1)	energetic				
(Vig2)	determined				
(Vig3)	active				
(Exh1)	lethargic				
(Exh2)	exhausted				
(Exh3)	weary				
	In the past two weeks in	relation to my	work I have fe	elt a sense of	
	Mark one alternative for	each row.			
		Not at all	Some of	Most of	All of the
			the time	the time	time
		1	2	3	4
(Ded1)	pride				
(Ded2)	dedication				
(Ded3)	inspiration				
(Diseng1)	indifference				
(Diseng2)	meaninglessness				
(Diseng3)	resignation				
	In the past two weeks wh	nile I have been	n working I ha	ve felt	
	Mark one alternative for	each row.			
		Not at all	Some of	Most of	All of the
			the time	the time	time
		1	2	3	4
(Inat1)	unfocused				
(Inat2)	restless				
(Inat3)	easily distracted				
(Att1)	fully concentrated				
(Att2)	attentive				
(Att3)	quick-thinking				
(Att4)	clearheaded				

#### 2. Swedish version

	Hur ofta under de senaste två veckorna har du på jobbet känt dig					
	Markera ett alternativ för varje rad.					
		Inte alls	Mindre delen	Större delen	Hela	
			av tiden	av tiden	tiden	
		1	2	3	4	
(Vig1)	energisk?					
(Vig2)	uthållig?					
(Vig3)	aktiv?					
(Exh1)	orkeslös?					
(Exh2)	utmattad?					
(Exh3)	slutkörd?					
	Hur ofta under de två s	enaste veck	orna har du inför	ditt arbete känt		
	Markera ett alternativ j	för varje rad	d.			
		Inte alls	Mindre delen	Större delen	Hela	
			av tiden	av tiden	tiden	
		1	2	3	4	
(Ded1)	stolthet?					
(Ded2)	hängivelse?					
(Ded3)	inspiration?					
(Diseng1)	likgiltighet?					
(Diseng2)	meningslöshet?					
(Diseng3)	uppgivenhet?					
	Hur ofta under de senas	ste två veck	orna när du har a	rbetat har du kän	t dig	
	Markera ett alternativ j	för varje rad	d.			
		Inte alls	Mindre delen	Större delen	Hela	
			av tiden	av tiden	tiden	
		1	2	3	4	
(Inat1)	ofokuserad?					
(Inat2)	rastlös?					
(Inat3)	lättdistraherad?					
(Att1)	fullt koncentrerad?					
(Att2)	uppmärksam?					
(Att3)	kvicktänkt?					
(Att4)	klartänkt?					

3. SPSS syntax for computing the dimensions and the aggregated scales of the SWEBO

\*\*\*Work engagement\*\*\*.

COMPUTE VIG = mean.3(VIG1, VIG2, VIG3). COMPUTE DED = mean.3(DED1, DED2, DED3). COMPUTE ATT = mean.4(ATT1, ATT2, ATT3, ATT4). COMPUTE WE= mean.3(VIG, DED, ATT).

\*\*\*Burnout\*\*\*.

COMPUTE EXH = mean.3(EXH1, EXH2, EXH3). COMPUTE DISENG = mean.3(DISENG1, DISENG2, DISENG3). COMPUTE INATT = mean.3(INATT1, INATT2, INATT3). COMPUTE BO= mean.3(EXH, DISENG, INATT).

