



# An Ultra-Short Measure for Work Engagement

## The UWES-3 Validation Across Five Countries

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**Abstract:** The current study introduces an ultra-short, 3-item version of the Utrecht Work Engagement Scale. Using five national samples from Finland ( $N = 22,117$ ), Japan ( $N = 1,968$ ), the Netherlands ( $N = 38,278$ ), Belgium/Flanders ( $N = 5,062$ ), and Spain ( $N = 10,040$ ) its internal consistency and factorial validity vis-à-vis validated measures of burnout, workaholism, and job boredom are demonstrated. Moreover, the UWES-3 shares 86–92% of its variance with the longer nine-item version and the pattern of correlations of both versions with 9 indicators of well-being, 8 job demands, 10 job resources, and 6 outcomes is highly similar with an average, absolute difference between correlations of only .02. Hence, it is concluded that the UWES-3 is a reliable and valid indicator of work engagement that can be used as an alternative to the longer version, for instance in national and international epidemiological surveys on employee's working conditions.

**Keywords:** work engagement, employee engagement, measurement, Utrecht Work Engagement Scale

Soon after its introduction in academia (Kahn, 1990) engagement at work became a very popular topic, particularly in the psychological and Human Resource Management (HRM) literatures. In the former it is predominantly labeled “work engagement,” whereas in the latter “employee engagement” is used. However, both terms can be used interchangeably. According to Google Scholar (June, 2016), the number of publications with either “work engagement” or “employee engagement” in the title steadily increased annually from 13 in 2000 to 814 in 2015, so that meanwhile over 4,600 scientific publications are available.

Arguably, the most widely used operationalization of engagement in academic studies is the Utrecht Work Engagement Scale or UWES (Farndale, Beijer, Van Veldhoven, Kelliher, & Hope-Hailey, 2014). The UWES is based on in-depth interviews and was introduced as a 17-item self-report questionnaire that includes three dimensions (Schaufeli, Salanova, Bakker, & Gonzales-Roma, 2002):

(1) *vigor*, characterized by “high levels of energy and mental resilience while working, the willingness to

invest effort in one's work, and persistence even in the face of difficulties”;

(2) *dedication*, characterized by “feelings of a sense of significance, enthusiasm, inspiration, pride, and challenge”; and

(3) *absorption*, characterized by “being fully concentrated and deeply engrossed in one's work, whereby time passes quickly and one has difficulties with detaching oneself” (Schaufeli et al., 2002, pp. 74–75).

Some years later, a shorter version of the UWES with nine items – three items for each dimension – was introduced (Schaufeli, Bakker, & Salanova, 2006). The UWES-9 assesses work engagement as a unitary construct that is constituted by three closely related aspects. (cf. de Bruin & Henn, 2013).

Shortening the original version of the UWES is important to reduce the demands placed on survey participants, which requires researchers either to assess fewer constructs or to assess constructs with fewer items. This dilemma is particularly salient for employee engagement surveys, which are

carried out in the business community. Employers usually impose time constraints for surveying employees during their work time so that there is increasing pressure on researchers to develop valid, reliable, yet short measures without redundant items (Fisher, Matthews, & Gibbons, 2015). Such brief measures also reduce participant's fatigue, frustration, and the likelihood of refusing to participate because the survey is perceived to be too long and time-consuming (Burisch, 1984).

The aim of the current paper is to introduce an ultra-short version of the UWES with only three items – one for each dimension of work engagement. More specifically we will compare the UWES-3 with the UWES-9 with respect to: (1) well-validated measures of burnout, workaholism, and job boredom; (2) internal consistency; (3) relations with biographical variables (age, education, job tenure); (4) relations with employee well-being, job demands, job resources, personal resources, and outcomes. Our expectation is that the UWES-3 will perform similarly as the UWES-9 with regard to these four points.

In order to increase the generalizability of the findings beyond the country in which the UWES was developed (the Netherlands), we used additional samples from four other countries, including three languages. The Flemish sample shares the same language (Dutch) but originates from another country (Belgium). Finland and Spain represent two parts of Europe that differ in socioeconomic history and development. The former represents Scandinavian countries with long-standing and well-established welfare states, whereas the latter represents Southern Europe with young democracies and recent, major socioeconomic transformations. Finally, a Japanese sample is included because it represents a highly developed East Asian country with quite different cultural roots.

Hence, the current study sets out to demonstrate in five national samples that the ultra-short UWES-3 performs equally well as the longer, well-established UWES-9.

## Engagement and Employee Well-Being

Work engagement can be distinguished from other kinds of employee well-being such as burnout, boredom, workaholism, and job satisfaction. From the outset, work engagement was conceived as the opposite, positive pole of burnout, a work-related state that is characterized by mental exhaustion (Maslach, Schaufeli, & Leiter, 2001). This implies that burnout and work engagement are negatively related. The same is true for job boredom, which, like burnout, is characterized by low arousal and displeasure (Loukidou, Loan-Clarke, & Daniels, 2009), whereas, in contrast, work engagement is characterized by high arousal and pleasure. Work engagement can also be distinguished from workaholism, which refers to a strong inner

compulsion to work excessively hard (Schaufeli, Taris, & Bakker, 2008) and which is characterized by high arousal and displeasure. Finally, work engagement can also be differentiated from job satisfaction (Christian, Garza, & Slaughter, 2011). Although both are characterized by pleasure, levels of arousal are higher for engagement than for job satisfaction.

Using a fourfold table that emerges after crossing two polar dimensions – pleasure versus displeasure and activation versus deactivation – Salanova, Del Libano, Llorens, and Schaufeli (2014) confirmed the discriminant validity of work engagement. More specifically, their cluster analysis showed that employees who score high/low on energy, Opleasure, challenge, efficacy, and identification with work can be classified into each of the quadrants of the fourfold table that correspond with engagement (activation/pleasure), workaholism (activation/displeasure), burnout (deactivation/displeasure), and satisfaction (deactivation/pleasure).

Hence, based on the presumption that work engagement can theoretically and empirically be differentiated from other types of employee well-being, we expect that engagement appears as separate factors vis-à-vis well-validated measures of burnout, boredom, and workaholism. Unfortunately, this is not possible for job satisfaction because different measures were used in the five national samples. In addition, we expect that engagement correlates negatively with burnout and boredom, and positively with workaholism and job satisfaction.

## Assessing Work Engagement With the UWES-17 and the UWES-9

The psychometric qualities of the UWES-17 have been demonstrated in numerous studies in terms of internal consistency, stability, and construct validity (for an overview, see Schaufeli, 2012). An iterative process was used to reduce the number of items of the original 17-item version that started with the selection (on face validity) of the most characteristic item of each subscale (see Schaufeli et al., 2006, p. 707). Next, this item was regressed on the remaining items of that particular subscale and the item with the highest  $\beta$  value was then added to the initial item. In the next step, the sum of these two items was regressed on the remaining items of the subscale and again the item with the highest  $\beta$  value was added to both items that were previously selected, and so on. This iterative procedure was aborted when no substantial variance was added by a subsequent item. As a result, the UWES-9 emerged, which performs quite as well as the longer, original version. For instance, its internal consistency across 10 different countries varies between .85 and .92, with a median of

.92 (Schaufeli et al., 2006). Moreover, stability coefficients of the UWES-9 are about .70 across time lags that span 16–18 months (de Lange, De Witte, & Notelaers, 2008; Seppälä et al., 2009). After systematically comparing the UWES-9 and the UWES-17 in a series of psychometric studies, Mills, Culbertson, and Fullagar (2011) concluded: “It appears as though the UWES-9 could serve as a viable – and perhaps even preferable – alternative to the longer UWES-17” (p. 541). Hence, the UWES-9 may be considered a parsimonious version of the UWES-17 that yields similar reliable and valid work engagement scores.

## Engagement and the Job Demands Resources Model

We use the Job Demands Resources (JD-R) model as a conceptual framework for investigating the content validity of both versions of the UWES. This model has been used to map the antecedents and consequences of work engagement (Bakker & Demerouti, 2008; Schaufeli & Bakker, 2004). The JD-R model assumes a motivational process that is sparked by abundant job resources (e.g., job control and coworker support); that is, positive aspects of the job that may: (a) be functional in achieving work goals; (b) reduce job demands and the associated physiological and psychological costs; (c) stimulate personal growth and development. Because of their motivating nature, job resources foster the willingness of employees to devote their efforts and abilities to the work task, and therefore induce a state of work engagement. In its turn, work engagement leads to various positive outcomes such as work performance and organizational commitment. In addition, the JD-R model also assumes that personal resources such as optimism and self-efficacy (i.e., aspects of the self that refer to the ability to control and impact one’s environment successfully) have a positive impact on work engagement. Conversely, personal vulnerability factors (e.g., neuroticism) have a negative relationship with work engagement. Finally, a more recent extension of the JD-R model (Crawford, Lepine, & Rich, 2010) predicts that challenging job demands (e.g., mental demands) are positively related to work engagement, whereas hindrance demands (e.g., role conflict) are either unrelated or negatively related. On balance, the JD-R model assumes that relationships of work engagement with job resources are stronger and more consistent than with job demands.

The empirical support for the JD-R model is abundant. For instance, in their recent review, Schaufeli and Taris (2014) found that 12 studies confirmed the mediating role of engagement in the motivation process. In the remaining four studies partial instead of full mediation was found for engagement.

Based on the JD-R model it is assumed that both versions of the UWES are consistently and positively related to job resources, personal resources, and outcomes, whereas correlations with job demands are lower and differ in direction, depending on the nature of the demand (i.e., challenging or hindering). However, most importantly, it is expected that the pattern of correlations of the UWES-3 and UWES-9 with the variables of the JD-R model is highly similar.

## Method

### Sample and Procedure

Five composite, national samples were included in the current research. Except for the Japanese sample all other national samples are not representative for the local workforce.

More specifically, about half of the Finnish sample ( $N = 22,117$ ) consists of employees and managers of different industries who participated in the same research project (53%) supplemented with other profession-based subsamples of dentists (13%), dental nurses (2%), judges (3%), firefighters (2%), nuclear safety engineers (3%), workers in the forest industry (9%), and personnel from schools including teachers, administrative staff, cooks, and cleaners (15%).

The Japanese sample was drawn from registered monitors of a survey company. A total of 13,564 employed monitors, who were matched in age, gender, and resident area to a Japanese representative sample, were randomly invited to participate in the survey. The final sample consists of 1,968 Japanese employees.

The Dutch sample ( $N = 38,278$ ) originates from a large occupational health service and comprises all employees who participated in psychosocial risk evaluations that were carried out between 2008 and 2013. Most employees work in business and financial services (20%), manufacturing and construction (18%), wholesale and retail (17%), health care (16%), public administration (7%), and education (7%).

The Flemish sample ( $N = 5,062$ ) resulted from a two-stage sampling procedure. First, a representative sample of 20 organizations was randomly selected from all economics branches in Flanders. Next, within each organization, either a random sample of employees was drawn (11 organizations) or all employees were invited to fill out the questionnaire (9 organizations). The sample is heterogeneous, but not representative for the Flemish working population.

Finally, the Spanish sample ( $N = 10,040$ ) is a composite, heterogeneous sample that includes white and blue collar workers from different occupational sectors, such as teachers, tile workers, technology workers, nurses, and physicians.

Table 1 shows that the gender distribution differs markedly: the majority of the Finnish sample is female,

**Table 1.** Samples

	N	Gender (%)		Education (%)			Age		Tenure	
		Men	Women	Low	Middle	High	M	SD	M	SD
Finland	22,117	30.3	69.7	8.7	22.2	69.1	46.5	10.6	14.4	11.3
Japan	1,968	51.2	48.4	31.1	12.7	56.3	45.2	12.5	11.1	10.4
The Netherlands	38,278	70.8	29.9	16.6	39.7	43.7	43.7	10.4	19.9	11.7
Flanders	5,062	53.1	46.9	18.7	32.5	48.8	40.9	10.2	–	–
Spain	10,040	56.6	43.4	5.3	43.5	51.2	36.8	10.3	8.2	8.8
Total	77,465	55.9	44.1	14.8	33.5	51.7	43.6	10.9	15.6	11.7

Notes. For Flanders a tenure classification instead of a mean value is available: 6.5% < 1 years; 29.2% 1–5 years; 25% 6–15 years; 20% 16–35 years; 19.2% > 35 years.

whereas most Dutch respondents are male. Also the educational level differs between countries with relatively high levels in the Finnish sample and low levels in the Japanese sample. Compared to the other samples, the Spanish sample is relatively young and thus also has less job tenure.

## Measures

The current study includes a large number of variables, many of which have been measured with different instruments in different national samples. This diversity is not considered a problem here because we are not interested in the relationships of the UWES with various variables per se, but in the similarity in correlations of both UWES versions with other variables. Moreover, because we used convenience samples, not all variables have been included in all national samples.

### UWES-3

In all countries the UWES-3 was administered. Based on face validity, theoretical reasoning, and earlier feedback from respondents, three items from the UWES-9 were selected, each or every dimension of work engagement: (1) “At my work, I feel bursting with energy” (vigor); (2) “I am enthusiastic about my job” (dedication); (3) “I am immersed in my work” (absorption). Item 1 was selected because it refers most unambiguously to the employee’s level of energy, which is considered a hallmark of vigor. Item 2 was selected because enthusiasm is a high arousal and pleasurable emotion that is associated with work engagement (Bakker & Oerlemans, 2011). Finally, item 3 was selected because the other two absorption items either referred to happiness or were formulated in a too extreme manner (i.e., getting carried away). The same three items were used as starting point for the iterative process of item selection that leads to the shortening of the original UWES-17 into the UWES-9. This means that item selection of the current study is consistent with the study that introduces the UWES-9 (Schaufeli et al., 2006).

### Other Study Variables

For an overview of the indicators of well-being and the measures that represent the four elements of the JD-R model (i.e., job demands, job resources, personal resources, and outcomes), see Table 2.

## Results

### Comparison With Other Well-Being Measures

Using confirmatory factor analysis (CFA), the relationship of both UWES versions was studied vis-à-vis validated measures of burnout, workaholism, and job boredom (see Table 3). It was expected that both versions of the UWES could be discriminated from these three measures. Three sets of CFAs were carried out for each of the well-being measures separately to test this assumption. The so-called multiple-group method was used in which the same model is fitted to the data of multiple samples simultaneously. First, a null-model was fitted to the data first that assumed that *all* items load on *one* general well-being factor (M0). Next, a model with each (sub)scale representing a separate latent factor and *no* correlated errors between the items was fitted to the data (M1). Finally, in case M1 did not fit well enough to the data, a revised model (M2) was tested in which only errors between pairs of items within one particular latent factor (subscale) were allowed to correlate (see also Discussion). This was only the case for one pair of workaholism items and two pairs of items of the UWES-9 (i.e., #1 and #2, and #8 and #9). It is important to note that in *none* of the revised models, errors between items of the UWES-3 were allowed to correlate. Using the  $\Delta\chi^2$  statistic the difference between the 0-model and the best fitting model (either M1 or M2) was tested. A significant value for  $\Delta\chi^2$  indicates that the model with separate factors fits better than a general well-being model and hence demonstrates that the UWES can be discriminated from the other well-being measures.

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**Table 2.** Study variables

	Finland		Japan		The Netherlands		Flanders		Spain	
	#	α	#	α	#	α	#	α	#	α
<i>Job well-being</i>										
Work engagement										
3-Item version	3	.80	3	.85	3	.82	3	.85	3	.77
9-Item version	9	.94	9	.95	9	.94	9	.93	9	.90
Burnout										
Exhaustion	5	.91			5	.88				
Cynicism	5	.83			4	.82				
Accomplishment	6	.92	6	.93	6	.84				
Total score									15	.80
Workaholism										
Working excessively	5	.78	5	.81	5	.75				
Working compulsively	5	.82	5	.74	5	.82				
Total score	6	.85			6	.76			10	.79
Boredom									2	r = .35
Job satisfaction	1	-	1	-	3	.92	4	.89	5	.80
Depression	13	.85	6	.92	6	.78	6	.78		
Psychological distress			18	.94	16	.91	16	.91		
<i>Job demands</i>										
Work overload	3	.77	3	.81	5	.87	4	.84	5	.88
Emotional demands	3	.84			3	.83			8	.83
Mental demands										
Interpersonal conflict			3	.68	4	.81	1	-		
Work-home conflict	4	.84			7	.90	7	.90	4	.82

(Continued on next page)

Table 2. (Continued)

	Finland		Japan		The Netherlands		Flanders		Spain						
	#	$\alpha$	#	$\alpha$	#	$\alpha$	#	$\alpha$	#	$\alpha$					
Role conflict	1	–					4	.62	QEEW						
Job insecurity							4	.86	Vander Elst, De Witte, and De Cuyper (2014)						
Job resources															
Job control	3	.77	Lindström et al. (2000)	3	.73	BJSQ	3	.82	QEEW	4	.80	Jackson, Wall, Martin, and Davis (1993)			
Skill utilization	6	.73	JCQ	1	–	BJSQ				7	.80	QEEW			
Role clarity	2	.76	QPSN	3	.68	BJSQ	5	.84	QEEW	4	.75	QEEW			
Feedback	3	.70	Hackman and Oldham (1975)				3	.87	QEEW	5	.81	QEEW	Hackman and Oldham (1975)		
Supervisor support	3	.77	Lindström et al. (2000)	3	.83	BJSQ	3	.90	QEEW				6	.82	Grau, Salanova, and Peiró (2000)
Coworker support	2	.84	QPSN	3	.81	BJSQ	3	.89	QEEW	5	.88	QEEW	2	$r = .40$	Salanova et al. (2011)
Trust in management	1	–	COPSOQ	4	.91	BJSQ									
Procedural justice	4	.83	COPSOQ							6	.88	Altena and Van Yperen (1998)	5	.85	Colquitt (2001)
Opportunity for development															
Personal resources															
Personal initiative	4	.77	Frese et al. (1997)				4	.87	QEEW	7	.84	Frese et al. (1997)			
Optimism	3	.86	Scheier et al. (1994)				6	.72	Luthans, Avolio, Avey, and Norman (2007)						
Self-esteem															
Self-efficacy	4	.88	Schwarzer and Jerusalem (1995)	10	.85	Rosenberg (1979)	5	.80	Ouweneel, Le Blanc, and Schaufeli (2013)	10	.81	Schwarzer and Jerusalem (1995)			
Extraversion															
Neuroticism															
External locus of control															
Outcomes															
Organizational commitment	3	.77	Lindström, Hottinen, Kivimäki, and Lämsä (1997)	5	.80	QEEW	12	.79	NEO-PI-R	12	.85	NEO-PI-R	6	.82	Rotter (1966)
Workability	1	–	WAI	47	– <sup>a</sup>	WAI									

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**Table 2.** (Continued)

	Finland			Japan			The Netherlands			Flanders			Spain		
	#	$\alpha$	Source	#	$\alpha$	Source	#	$\alpha$	Source	#	$\alpha$	Source	#	$\alpha$	Source
In-role performance	9	.89	Goodman and Svyantek (1999)	2	.83	BJSQ									
Extra-role performance	3	.87	Goodman and Svyantek (1999)												
Overall performance				1	-	HPQ									
Turnover intention	1	-	Lehto and Sutela (2009)				4	.91	QEEW						

Notes. UWES = Utrecht Work Engagement Scale (Schaufeli et al., 2006); MBI = Maslach Burnout Inventory-General Survey (Schaufeli, Leiter, Maslach, & Jackson, 1996; Spanish version: Salanova, Schaufeli, Llorens, Peiró, & Grau, 2000); DUWAS = Dutch Workaholism Scale (Schaufeli, Shimazu, & Taris, 2009); DUBS = Dutch Boredom Scale (Reijseger et al., 2013); BDI = Beck Depression Inventory (Beck & Beck, 1972); 4DSQ = Four-Dimensional Symptom Questionnaire (Terluin, Van Rhenen, Schaufeli, & De Haan, 2004); COPSOQ = Copenhagen Psychosocial Questionnaire (Kristensen, Hannerz, Hogh, & Borg, 2005); QPSN = General Nordic Questionnaire for Psychological and Social Factors at Work (Elo et al., 2000); WAI = Workability Index (Tuomi, Ilmarinen, Jahkola, Katajarinne, & Tulkki, 1998); JCC = Job Content Questionnaire (Karasek, 1979); BJSQ = Brief Job Stress Questionnaire (Shimomitsu et al., 1988); HPQ = Health and Performance Questionnaire (Kessler et al., 2003); RED-ES = Questionnaire para la evaluación de riesgos psicosociales (Questionnaire for the Assessment of Psychosocial Risks; Salanova et al., 2011); QEEW = Questionnaire on the Experience and Evaluation of Work (Van Veldhoven, De Jonge, Broersen, Komplier, & Meijman, 2002); NEO-PI-R = NEO Personality Inventory-Revised (Costa & McCrae, 1992); <sup>a</sup> = Scoring in four classes: 1 ("poor"), 2 ("moderate"), 3 ("good"), 4 ("excellent") (cf. Tuomi et al., 1998).

**Burnout**

As can be seen from Table 3, the null-model (M0) with one latent, undifferentiated well-being factor did *not* fit to the Finnish and the Dutch data. Next, a four-factor correlated model was fitted simultaneously to the data of both national samples that included three latent burnout factors (emotional exhaustion, cynicism, and professional efficacy) plus one latent UWES factor with 9 and 3 items, respectively. The original model (M1) that included the UWES-9 did *not* fit very well to the data of both countries (Table 3), but the fit improved significantly ( $\Delta\chi^2 = 63,739.14$ ;  $df = 4$ ;  $p < .001$ ) after two pairs of errors of UWES-9 items were allowed to correlate. As a result, all fit indices for M2 satisfied their criteria. Following Byrne (2009) values of NFI, TLI, and CFI that exceed .90, and a value of .08 or lower for RMSEA are considered to indicate sufficient model-fit. The fit of the multifactor model was superior to that of the 0-model ( $\Delta\chi^2 = 210,438.99$ ;  $df = 18$ ;  $p < .001$  for the UWES-9 and  $\Delta\chi^2 = 125,466.78$ ;  $df = 12$ ;  $p < .001$  for the UWES-3), indicating that both UWES versions can be discriminated from the burnout measure.

**Workaholism**

Again, the null-model (M0) did *not* fit the Finnish, Dutch, and Japanese data, either for the UWES-9 or for the UWES-3. Next, a three-factor correlated model was fitted simultaneously to the data of these three countries that included two latent workaholism factors (working excessively and working compulsively) plus one latent UWES factor with nine and three items, respectively. The original model (M1) did not fit very well to the data of the three countries, but the fit of the re-specified model (M2) - with one correlated error between two workaholism items - was sufficient, with all fit indices satisfying their criteria. M2 fitted significantly better to the data than M1:  $\Delta\chi^2 = 7,124.53$ ;  $df = 9$ ;  $p < .001$  for the UWES-9 and  $\Delta\chi^2 = 967.54$ ;  $df = 3$ ;  $p < .001$  for the UWES-3. The fit of the multifactor model was superior to that of the 0-model ( $\Delta\chi^2 = 38,743.68$ ;  $df = 18$ ;  $p < .001$  for the UWES-9 and  $\Delta\chi^2 = 15,872.99$ ;  $df = 12$ ;  $p < .001$  for the UWES-3), indicating that both UWES versions can be discriminated from the workaholism measure.

**Job Boredom**

Finally, the null-model (M0) did *not* fit the Finnish and Dutch data. Next, a two-factor correlated model was fitted simultaneously to the data of both countries that included one latent job boredom factor and one latent UWES factor of 9 and 3 items, respectively. The original model (M1) that included the UWES-9 did not fit very well to the data of both countries, but the fit of the re-specified model (M2) - with correlated errors between two engagement items - was significantly better than that of M1 ( $\Delta\chi^2 = 12,882.80$ ;

**Table 3.** CFA fit indices (multiple-group method)

Concept	Countries	Model	$\chi^2$	df	NFI	TLI	CFI	RMSEA	90% CI
Burnout*	Finland	M0-9	259,186.52	506	.56	.52	.56	.12	.117–.118
		M1-9	68,586.67	492	.88	.87	.88	.06	.061–.062
	The Netherlands	M2-9	48,747.53	488	.92	.91	.93	.04	.041–.042
		M0-3	152,449.14	270	.58	.52	.58	.12	.123–.124
		M1-3	26,982.36	258	.93	.91	.93	.05	.053–.054
Workaholism	Finland	M0-9	46,526.78	456	.59	.54	.59	.10	.095–.097
		M1-9	14,907.63	447	.87	.85	.87	.05	.054–.055
	The Netherlands	M2-9	7,783.10	438	.93	.92	.93	.04	.038–.040
		M0-3	19,944.08	195	.59	.51	.59	.10	.095–.097
		M1-3	5,038.63	186	.90	.90	.90	.05	.048–.050
		M2-3	4,071.09	183	.92	.92	.92	.04	.043–.045
Job boredom	Finland	M0-9	38,940.06	180	.75	.71	.75	.13	.124–.126
		M1-9	20,714.44	178	.87	.84	.87	.09	.090–.092
	The Netherlands	M2-9	8,031.64	174	.95	.94	.95	.06	.056–.058
		M0-3	16,301.16	54	.71	.71	.71	.15	.145–.149
		M1-3	4,288.88	52	.92	.93	.93	.08	.075–.079

Notes. M1 = original model; M2 = re-specified model; 9 = UWES-9; 3 = UWES-3; \*The Dutch version of the MBI-GS includes 15 instead of 16 items.

$df = 4$ ;  $p < .001$ ) with all fit indices satisfying their criteria. The fit of the multifactor model was superior to that of the 0-model ( $\Delta\chi^2 = 30,908.42$ ;  $df = 6$ ;  $p < .001$  for the UWES-9 and  $\Delta\chi^2 = 12,012.28$ ;  $df = 2$ ;  $p < .001$  for the UWES-3), indicating that both UWES versions can be discriminated from the boredom measure.

*In sum*, factorial validity was demonstrated for the UWES-9 and UWES-3 vis-à-vis the Maslach Burnout Inventory-General Survey (MBI-GS; burnout), the Dutch Workaholism Scale (DUWAS; workaholism), and the Dutch Boredom Scale (DUBS; job boredom). In other words, like the UWES-9 the UWES-3 can be discriminated from scales that assess three other types of work-related well-being.

## Internal Consistency

The three engagement items are moderately to highly correlated: vigor-dedication ( $r = .69$  in the total sample;  $.64 < r < .75$  in the national samples), vigor-absorption ( $r = .56$  in the total sample;  $.46 < r < .65$  in the national samples), and dedication-absorption ( $r = .60$  in the total sample;  $.46 < r < .54$  in the national samples). As can be seen from Table 2, Cronbach's  $\alpha$  of the UWES-3 are sufficient in all five national samples; that is, they exceed the generally accepted value of .70 (Nunnally & Bernstein, 1994). Because values of Cronbach's  $\alpha$  increase with test length,  $\alpha$  are somewhat higher for the UWES-9 as compared to the UWES-3. Applying the Spearman-Brown prediction formula, it appears that increasing the test length of the UWES-3 with six items would yield virtually the same predicted as observed  $\alpha$ -values for the UWES-9 in

the Finnish (.92 vs. .94), Japanese (.94 vs. .94), Dutch (.93 vs. .94), Flemish (.94 vs. .94), and Spanish (.90 vs. .90) samples. Hence, reducing the UWES-9 with six items does not decrease the internal consistency beyond what can be expected.

## Correlations Between Both Versions

Item-total/rest correlations of the UWES-3 and UWES-9 are very high for Finland (.96/.90), Japan (.96/.92), the Netherlands (.96/.91), Flanders (.95/.88), and Spain (.93/.85). By definition, the former are higher than the latter because of partially overlapping items. The mean correlations of the single *items* of the UWES-3 with the total score of the UWES-9 are quite similar across countries as well, ranging from .80 to .85. Hence, the items that constitute the UWES-3 are highly representative for the pool of 9 items they were drawn from.

## Mean Differences Between Countries

Like the mean values of the UWES-9,  $F(4, 75,834) = 2,875.44$ , those of the UWES-3,  $F(4, 76,128) = 2,282.78$ , also differ between the national samples. Post hoc testing using Fisher's Least Significant Difference (LSD) test reveals that mean scores on the UWES-3 and UWES-9 differ systematically between all national samples with the highest scores for Finland ( $M = 4.60/4.61$ ,  $SD = 1.21/1.18$ ) and the lowest scores for Japan ( $M = 2.86/2.77$ ,  $SD = 1.11/1.23$ ) for the UWES-3 and UWES-9, respectively.



## Relations With Age, Level Education, and Tenure

Mean Pearson product-moment correlations across countries with age ( $r = .04/.05$ ) and tenure ( $r = -.03/-.02$ ), and Spearman correlations with level with education ( $r = .04/.05$ ) are similarly low for the UWES-3 and UWES-9, respectively. The only correlation that exceeds .10 is observed for age in Japan ( $r = .20/.25$ ).

Females score significantly higher than males on the UWES-3,  $t_{(74,501)} = -37.70$ ;  $d = .29$ , and the UWES-9,  $t_{(74,226)} = -39.99$ ;  $d = .27$ . However, mean gender differences are rather small with values of Cohen's  $d$  lower than .10 for both UWES versions in all countries, except Finland, where  $d$ -values of .41 and .43 were observed for the UWES-3 and UWES-9, respectively. Most importantly, gender differences across all countries were similar for both UWES versions.

## Relations With Well-Being

Generally speaking correlations with well-being are weak to moderate and in the expected direction (see Table 4); that is, negative with indicators of ill-being (burnout, boredom, depression, and psychological distress) and positive with the only indicator of well-being (satisfaction). Correlations with workaholism are more complex and differ between countries. Most importantly, however, the absolute average difference between the correlations of indicators for well-being with the UWES-3 and UWES-9 is very small (.02). Formal testing of these differences is not very insightful because trivially small differences (e.g., .01 or .02) produce statistically significant results given the very large sample sizes. In our samples, only a difference of zero is nonsignificant. So it is safe to conclude that correlations of the UWES-3 with all six indicators (and nine subscales) of employee well-being are practically similar to those of the UWES-9.

As displayed in Table 3, generally correlations are slightly lower for the UWES-3 compared with the UWES-9, with an average, absolute difference of only .02 and with almost all differences less than .05. The most salient exception is the correlation with workaholism in Japan; here the UWES-3 correlates *higher* than the UWES-9 with a difference slightly larger than .05.

## Relations With Job Demands

As can be seen from Table 5 work engagement correlates positively with some demands (e.g., mental demands) and negatively with others (i.e., role conflicts). Generally, correlations are (very) weak and do not exceed .25. Moreover,

**Table 4.** Correlations of the UWES with psychological well-being

Country	Well-being	UWES-9	UWES-3	Difference
Finland	Workaholism (WE)	.00 <sup>a</sup>	.04 <sup>b</sup>	.04
	Workaholism (WC)	-.11	-.07	-.04
	Burnout (EX)	-.32	-.29	-.03
	Burnout (CY)	-.45	-.41	-.04
	Burnout (rPE)	-.65	-.61	-.04
	Job boredom	-.53	-.50	-.03
	Job satisfaction	.43	.40	-.03
	Depression	-.28	-.26	-.02
	Japan	Workaholism (WE)	.15	.22
Workaholism (WC)		.16	.22	.06
Burnout (rPE)		-.56	-.54	-.02
Job satisfaction		.59	.53	-.06
Psychological distress		-.42	-.35	-.07
The Netherlands		Workaholism (WE)	.11	.14
	Workaholism (WC)	-.14	-.11	-.03
	Burnout (EX)	-.41	-.37	-.04
	Burnout (CY)	-.57	-.56	-.01
	Burnout (rPE)	-.71	-.68	.03
	Job boredom	-.38	-.38	.00
	Job satisfaction	.60	.59	-.01
	Depression	-.29	-.28	-.01
	Psychological distress	-.34	-.31	-.03
Flanders	Job satisfaction	.70	.70	.00
Spain	Workaholism	.19	.21	.02
	Burnout	-.38	-.43	.05
	Job boredom	-.37	-.39	.02
	Job satisfaction	.58	.56	-.02
	Average (absolute)	.39	.38	.02

Notes. WE = working excessively; WC = working compulsively; EX = emotional exhaustion; CY = cynicism; rPE = reduced professional efficacy; all correlations,  $p < .001$ , <sup>a</sup>nonsignificant, <sup>b</sup> $p < .05$ .

differences in correlations of both versions with job demands are very small; on average .02. Most correlations with the UWES-3 are lower than with the UWES-9 (11 vs. 7; two correlations are similar). However, all differences are less than or equal to .05 with the exception of work overload in Japan, where the correlation with the UWES-3 is .07 stronger than with the UWES-9.

## Relations With Job Resources

Table 6 shows that all correlations with job resources are positive and in general weakly to moderately strong. All correlations are slightly lower for the UWES-3 than for the UWES-9, except for four correlations that are similar. However, the absolute differences are again very small; on average .02, with no difference exceeding .05. As predicted by the JD-R model, compared to job demands correlations with job resources are higher and more consistent.

**Table 5.** Correlations of the UWES with job demands

Country	Job demands	UWES-9	UWES-3	Difference
Finland	Work overload	-.04	-.01 <sup>a</sup>	-.03
	Emotional demands	-.09	-.07	-.02
	Job insecurity	-.21	-.18	-.03
	Work-home conflict	-.15	-.10	-.05
Japan	Work overload	.10	.17	.07
	Interpersonal conflict	-.32	-.28	-.05
The Netherlands	Work overload	.07	.09	.02
	Mental demands	.20	.21	.01
	Emotional demands	.01 <sup>a</sup>	.01 <sup>a</sup>	.00
	Interpersonal conflict	-.14	-.13	-.01
Flanders	Work-home conflict	-.07	-.08	.01
	Work overload	.12	.13	.01
	Mental demands	.21	.22	.01
	Role conflict	-.28	-.27	-.01
Spain	Job insecurity	-.14	-.12	-.02
	Interpersonal conflict	-.16	-.15	-.01
	Work overload	.10	.07	-.03
	Mental demands	.16	.16	.00
Spain	Emotional demands	.14	.10	-.04
	Work-home conflict	-.15	-.10	-.05
	Average (absolute)	.15	.14	.02

Note. All correlations,  $p < .001$ , <sup>a</sup>nonsignificant.

## Relations With Personal Resources

Table 7 shows that correlations with personal resources are generally moderately strong and only slightly differ between both UWES versions; (i.e., .02). With only one exception, all correlations with the UWES-3 are lower than with the UWES-9. As expected, only correlations with neuroticism and external locus of control are negative, as these are personal vulnerability factors.

## Relations With Outcomes

Likewise, Table 8 shows that that correlations with outcomes are generally moderately strong and only slightly differ between both UWES versions (i.e., .02). All correlations are positive, except for turnover intention, meaning that engaged employees are *not* keen to leave the organization. With the exception of four correlations that are similar, correlations with the UWES-3 are lower than with the UWES-9.

## In Sum

Taken together, the 102 correlations of both versions of the UWES with 41 different variables – across five national samples – are virtually identical. Generally speaking, correlations with the UWES-3 are slightly lower than with

the UWES-9. However, these differences are very small. On average, the difference in absolute correlations is .02, whereby in only 5.8% of all cases this difference exceeds the value of .05, with a maximum of .07.

## Discussion

This study demonstrates convincingly that the UWES-9 can be shortened, without any significant loss of information, to an ultra-short version with only three items, each representing one particular aspect of work engagement: vigor, dedication, and absorption. This is illustrated by the following results:

- The internal consistency of the UWES-3 is similar to that of the UWES-9, taken its shorter test length into consideration.
- Both measures share between 86% and 92% of their variances, depending on the sample.
- Correlations of both measures with age, level of education, and tenure are virtually identical, as is the small gender difference in mean engagement scores.
- Both measures detect similar mean differences in levels of engagement across all five national samples.
- The pattern of correlations of both measures with 9 indicators of well-being, 8 job demands, 10 job

**Table 6.** Correlations of the UWES with job resources

Country	Job resources	UWES-9	UWES-3	Difference
Finland	Job control	.29	.25	-.04
	Skill variety	.46	.41	-.05
	Role clarity	.31	.29	-.02
	Feedback	.45	.42	-.03
	Supervisor support	.19	.19	.00
	Coworker support	.32	.29	-.03
	Trust in management	.34	.32	-.02
	Procedural justice	.38	.35	-.03
Japan	Job control	.29	.26	-.03
	Low skill utilization	-.28	-.27	-.01
	Role clarity	.39	.39	.00
	Supervisor support	.36	.34	-.02
	Coworker support	.32	.30	-.02
	Trust in management	.43	.38	-.05
	Opp. for development	.60	.58	-.02
	The Netherlands	Job control	.42	.40
Role clarity		.37	.37	.00
Feedback		.44	.42	-.02
Supervisor support		.38	.37	-.01
Coworker support		.31	.29	-.02
Opp. development		.49	.46	-.03
Flanders	Job control	.16	.15	-.01
	Skill utilization	.42	.40	-.02
	Role clarity	.31	.32	-.01
	Feedback	.34	.32	-.02
	Coworker support	.30	.30	.00
	Procedural justice	.29	.28	-.01
Spain	Job control	.37	.36	-.01
	Feedback	.26	.26	.00
	Supervisor support	.22	.20	-.02
	Coworker support	.12	.11	-.01
	Average (absolute)	.35	.33	.02

Note. All correlations,  $p < .001$ .

resources, and 6 outcomes is highly similar with an average, absolute difference of only .02.

- Like the UWES-9, the UWES-3 can be discriminated from other measurement instruments that assess burn-out (MBI-GS), workaholism (DUWAS), and job boredom (DUBS).

It was observed that correlations with well-being, job demands, job resources, personal resources, and outcomes are marginally *lower* for the UWES-3 as compared to the UWES-9. This is the statistical consequence of shortening the scale, then by doing so coefficient  $\alpha$  – which is the lower bound for internal consistency – is by definition reduced. Therefore, a larger proportion of the variance is due to measurement error, so that correlations are diminished. But please note that differences in correlations with both

versions are very small and not relevant for practice; on average only.02, with less than 6% of the differences exceeding .05.

Moreover, our results agree with the JD-R model that job resources are stronger and more consistently related to work engagement than job demands (Bakker & Demerouti, 2008; Schaufeli & Taris, 2014). Across our samples job demands are on average correlated about .40 with both engagement measures, against only approximately .15 with job demands. Moreover, and in line with other studies (cf. Crawford et al., 2010), challenge demands such as mental demands and – to a lesser degree work overload – are *positively* related to work engagement, whereas hindrance demands such as job insecurity and role conflicts are *negatively* related to work engagement. However, some demands are also inversely related to work engagement in different samples, such as work overload, mental demands, and work-home conflict. Most likely, these differences have to do with the fact that the difference between challenge and hindrance demands is not as clear-cut as initially assumed (cf. Schaufeli & Taris, 2014).

Although the aim of this study was *not* to compare work engagement across different countries, two interesting differences were observed between Japan and the European countries. First, levels of work engagement are much lower in Japan than in any other European country. This was observed previously as well and has been explained by Japanese culture, which strongly emphasizes harmony and hence precludes the expression of positive feelings and experiences because this would place the individual in a superior position in the group and hence jeopardize harmony (Shimazu, Miyazaki, & Schaufeli, 2010). Like the UWES-9, the UWES-3 is able to detect these differences. Second, the pattern of correlations of both versions of the UWES is slightly different in Japan, as compared to the European countries. This applies particularly to the compulsive component of workaholism that correlates positively to work engagement in Japan, whereas this correlation is negative in both European samples from Finland and the Netherlands. Perhaps this can be explained by differences in work ethic between Europe and Japan. In contrast to Europe, Japan does not have a self-enhancement culture and work is closely connected with self-sacrifice, duty, and toil (Sagie, Elizur, & Koslowski, 1996). Hence, it can be speculated that Japanese employees may experience their work as engaging and compulsive at the same time.

## Weaknesses and Strengths

The current study has four potential weaknesses. First, convenience samples were used for all European countries; only the Japanese sample was representative for the working

**Table 7.** Correlations of the UWES with personal resources

Country	Personal resources	UWES-9	UWES-3	Difference
Finland	Personal initiative	.47	.44	-.03
	Optimism	.45	.39	-.06
	Self-efficacy	.29	.28	-.01
Japan	General efficacy	.42	.40	-.02
	Self-esteem	.40	.37	-.03
The Netherlands	Personal initiative	.45	.44	-.01
	Optimism	.53	.49	-.04
	Self-efficacy	.31	.29	-.02
	Extraversion	.44	.42	-.02
	Neuroticism	-.37	-.35	-.02
Flanders	External locus of control	-.18	-.20	.02
	External locus of control	-.29	-.27	-.02
Spain	Self-efficacy	.34	.33	-.01
	Average (absolute)	.38	.36	.02

Note. All correlations,  $p < .001$ .

**Table 8.** Correlations of the UWES with outcomes

Country	Outcomes	UWES-9	UWES-3	Difference
Finland	Organ. commitment	.57	.52	-.05
	Turnover intention	-.43	-.38	-.05
	Workability	.37	.35	-.02
	In-role performance	.42	.37	-.05
	Extra-role performance	.36	.34	-.02
Japan	Overall performance	.43	.43	.00
	In-role performance	.34	.34	.00
The Netherlands	Organizational commitment	.46	.44	-.02
	Turnover intention	-.37	-.37	.00
	Workability	.44	.42	-.02
Spain	Organizational commitment	.40	.40	.00
	Average (absolute)	.46	.44	.02

Note. All correlations,  $p < .001$ .

population of that country as far as age, gender, and residential area are concerned. This restricts the generalization of the research findings, but only to a limited degree because we were *not* interested in differences across countries per se but in comparing both versions of the UWES. So rather than being representative, it is important that the samples include many different variables that represent the elements of the JD-R model. The fact that convenience samples were used also has another drawback, namely that in different samples different measures of the same construct have been used (see Table 2). However, this heterogeneity can also be seen as an advantage because it allows investigating the comparative validity of both UWES versions across different operationalizations of similar constructs. Once more, our objective was *not* to study the relationships of work engagement with various other

concepts *as such*, but to study the *differences* between both versions of the UWES.

Second, in order to increase model fit, correlations were allowed in the re-specified models between pairs of errors of items from the same (sub)scale. Although it is – generally speaking – not recommended to allow errors to correlate in order to improve model fit, this is considered to be legitimate when it can be defended on conceptual grounds (Byrne, 2009), as in the current case. It is important to note that in *none* of the models pairs of errors of UWES-3 items were allowed to correlate and that in *all* samples the errors of items 1 and 2 and of the items 8 and 9 of the UWES-9 were allowed to correlate. Both item pairs, which refer to vigor and absorption, respectively, overlap in content (“At my work, I feel bursting with energy” with “At my job, I feel strong and vigorous” and “I am immersed in my work” with

“I get carried away when I’m working”). The pairs of errors that were allowed to correlate in the other scales (MBI-GS, DUWAS, and DUBS) usually differed per country. However, a detailed investigation of the cross-national invariance of the factor structure of these measures is beyond the scope of the current article because our focus is primarily on the UWES. Nevertheless, our results seem to be slightly at odds with a recent cross-cultural study that showed that a second-order latent factor model that included DUWAS workaholism (working excessively and working compulsively) and UWES-9 work engagement (vigor, dedication, and absorption) was invariant across East Asian countries (Japan and China) and European countries (Finland, the Netherlands, and Spain; Hu, Schaufeli, et al, 2014). Hence, it seems that further cross-national research is needed.

Third, in the current study the UWES-3 has not independently used from the UWES-9, so that its true reliability and validity is not yet fully understood. At least not based on the current study. However, a recent study that integrated the concept of engaging leadership into the JD-R model (Schaufeli, 2015) used the UWES-3. Its internal consistency was high ( $\alpha = .95$ ) and it appeared that work engagement – as assessed with the UWES-3 – was related to job resources, burnout, and various outcomes (e.g., employability and job performance) according to the predictions of the JD-R model. Hence, this study supports the reliability and validity of the UWES-3. Nevertheless, more research is needed.

Finally, an inherent weakness of this ultra-short measure of engagement is that the three-dimensional nature of longer UWES versions has been sacrificed in favor of its brevity. That means that researchers who are interested in studying these dimensions separately are advised to use the longer 9- or 17-item versions.

## Final Note

The 3-item version of the Utrecht Work Engagement Scale (UWES) appears to be a reliable and valid indicator of work engagement that can be used just as well as the longer 9-item version. This ultra-short version not only reduces the length of engagement surveys in companies but also opens the possibility to include work engagement in national and international epidemiological surveys on employee’s working conditions. These surveys, which are carried out by NGOs, national government agencies, or international bodies, are usually very comprehensive and do therefore not allow the inclusion of longer scales that are used in academic research.

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