

EXPERIENCES AND TOOLS

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*An Italian validation of the Utrecht Work Engagement Scale:
Characterization of engaged groups in a sample of schoolteachers*

Introduction

For almost a decade increased attention has been paid to the so-called *Positive Psychology*; that is, the scientific study of human strengths and optimal functioning (Seligman & Csikszentmihalyi, 2000). "The aim of positive psychology is to shift the emphasis away from what is wrong with people to what is right with people" (Luthans, 2002, p. 697), focusing mainly on strengths, resilience and virtues instead of disease, disorder, disability, and damage (Diener, 2000; Snyder & Lopez, 2002). Although there are many organizational behaviour constructs that are positively oriented (e.g. positive reinforcement, positive emotions, work satisfaction, commitment, and motivation), the balance is clearly in favour of the more negative constructs (Luthans, 2002). However, due to the changes in the nature of work, organizations need to promote their human capital much more than before and to retain employees who are "healthy" not just in the traditional way – that is free of symptoms – but who are expected "to go the extra mile" (Schaufeli & Salanova, 2008). This means that organizations expect their employees to be proactive, to collaborate efficiently with others, and to take responsibility for the professional development of their own staff (Bakker & Schaufeli, 2008). In fact, this recent trend towards focusing on optimal functioning has also aroused attention in organizational psychology, in which two fields of interest have emerged: Positive Organizational

Behaviour (POB), and the Positive Organizational Scholarship (POS). Although they partly overlap, the former is primarily concerned with individual psychological states and with human strengths that can influence work performance (Luthans, 2002), whilst the latter is primarily focused on the positive aspects of the organizational context, on the processes and outcomes of organizations and their members (Cameron, Dutton & Quinn, 2003).

Within the framework of POB the concept of work engagement has emerged. Work engagement is defined as a positive, fulfilling, work-related state of mind, characterized by vigour (high levels of energy and mental resilience while working, willingness to invest effort in work, and persistence in the face of difficulties), dedication (being involved in one's work, sense of enthusiasm, inspiration, pride, and challenge), and absorption (being happily engrossed in one's work, whereby time passes quickly and one has difficulties detaching oneself from work); (Schaufeli, Salanova, González-Romá & Bakker, 2002).

The current study is about the psychometric evaluation of the Italian version of a self-report questionnaire to measure work engagement – the Utrecht Work Engagement Scale (UWES). As in other countries in which this has been deeply studied, the concept of work engagement is potentially fruitful for the study of the well-being of Italian workers. This appears particularly true for Italian schoolteachers, who in recent

years have been deeply affected by lack of career development opportunities and continuous government reforms. They are asked more frequently to take personal initiative by "giving it their all," in other words they are asked to be *engaged*. However, in order to study and apply the concept of work engagement is first necessary to validate the instruments used to measure it, like the UWES.

Work Engagement: The Utrecht Work Engagement Scale (UWES)

Based on the definition of engagement above, a self-report questionnaire (the Utrecht Work Engagement Scale) has been developed. The original version of the UWES consisted of 24 items, but after psychometric evaluation seven unsound items were eliminated so that 17 items remained (Schaufeli & Bakker, 2003). The resulting scale (UWES-17) includes the three constituting dimensions of work engagement: vigour (six items), dedication (five items) and absorption (six items) (Schaufeli et al., 2002). Subsequent psychometric analysis revealed other two weak items, VI06 and AB06 (see Schaufeli & Bakker, 2003), so that in some studies also a 15-item version has been used (Salanova, Schaufeli, Llorens, Peiró & Grau, 2000; Xanthopoulou, Bakker, Kantas & Demerouti, 2012).

Generally speaking, previous studies have supported the hypothesized three-factor structure of the UWES-17 in various samples from different countries (Salanova et al., 2000; Schaufeli et al., 2002; Schaufeli & Bakker, 2003; Shimazu et al., 2008). However, a few studies did not confirm the three-dimensional structure and suggested unidimensionality (Naudé & Rothmann, 2004; Sonnentag, 2003). Empirical results also confirm the internal consistency of the UWES-17: values of Cronbach's alpha generally range

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between .80 and .90 (e.g. Durán, Extremera & Rey, 2004; Salanova et al., 2000; Salanova, Bresó & Schaufeli, 2005; Schaufeli & Bakker, 2004). More recently, a short nine-item version (UWES-9) has been developed (Schaufeli, Bakker & Salanova, 2006). In this shortened version, vigour, dedication and absorption are assessed by three items per dimension. Previous studies have also supported the correlated three-factor structure of the UWES-9 (Hallberg & Schaufeli, 2006; Schaufeli et al., 2006). For the UWES-9 values of Cronbach's alpha are good as well, ranging from .70 and .80 (Schaufeli & Bakker, 2003; Schaufeli et al., 2006). Finally, although the previous studies cited above have supported the assumed three-factor structure of the UWES-17 and the UWES-9, they have also shown that the three factors of work engagement are strongly interrelated. For this reason, an alternative one-factor structure of the UWES-17 and the UWES-9 has been tested (Hallberg & Schaufeli, 2006; Schaufeli & Bakker, 2003). Results of CFA have shown that the three-factor structure fitted significantly better to the data than the alternative one-factor structure (which assumes an undifferentiated engagement factor). However, all things considered, Schaufeli et al. (2006) recommend, particularly for practical purposes (for example to avoid multicollinearity problems when multiple regression analysis are performed) that the total score of the UWES can be used as a single indicator of work engagement.

Work Engagement and related concepts

Several studies have investigated the relationships between work engagement and other constructs, such as job resources, personal resources, organizational attitudes and behaviours, and employee health (Schaufeli et al., 2002; Schaufeli & Salanova, 2008;

Schaufeli & Bakker, 2010). For instance, job resources are positively related to work engagement in a reciprocal way: employees who perceived that they had access to more job resources (e.g. autonomy, opportunities for learning and development, and social support) are more likely to feel engaged and, over time, engaged employees are successful in mobilizing their job resources (Schaufeli & Salanova, 2008; Xanthopoulou, Bakker, Demerouti & Schaufeli, 2009). In a similar way, it appears that employees who experience a positive balance between work and home (and vice versa) exhibit higher levels of work engagement compared to those for whom there is no positive interplay between the two different life domains (Montgomery, Peeters, Schaufeli & Den Ouden, 2003). Another interesting result concerns the role of self-efficacy (Salanova, Grau, Llorens & Schaufeli, 2001), which seems an antecedent as well as a consequence of work engagement, suggesting the existence of a gain spiral. Self-efficacy fuels engagement that, in turn, increases self-efficacy and so on (Llorens, Schaufeli, Bakker & Salanova, 2007; Salanova et al., 2005). Concerning the possible consequences, engaged employees are more satisfied with their jobs, feel more committed to the organizations they work for, and show lower turnover intention (Demerouti, Bakker, Nachreiner & Schaufeli, 2001; Schaufeli & Bakker, 2004). Moreover, they exhibit personal initiative and more proactive behaviours when compared to employees who don't feel engaged (Sonnentag, 2003; Salanova & Schaufeli, 2008). Finally, engaged employees show higher levels of mental health and lower levels of depression, anxiety and distress (Demerouti et al., 2001; Schaufeli & Salanova, 2008).

Purpose of the current study

The present study seeks to further extend our knowledge of

the psychometric properties of the Italian version of the UWES by analysing both the UWES-17 and the UWES-9 versions in a sample of schoolteachers.

In particular, the aims were: (1) to evaluate the factorial validity, by comparing the fit of the one-factor model to that of the three-factor model for various versions of the UWES; (2) to inspect the scale reliability through Cronbach's alpha and inter-item correlation; (3) to classify teachers on the basis of their work engagement levels, using cluster-analyses, and to determine whether engaged teachers differ from their less engaged colleagues in terms of job and personal resources (i.e. possibilities for personal development, work-life balance, and self-efficacy), positive organizational attitudes and behaviours (i.e. job satisfaction and organizational citizenship behaviour), and perceived health.

Method

Procedure

After informative meetings with school principals and representatives of teachers from each school, 747 teachers received a paper-and-pencil questionnaire and a return envelope at their school. The questionnaire was accompanied by a letter signed by the coordinator of the university research unit, in which the general aim of the study was briefly explained, and the confidentiality and anonymity of the answers were emphasized. The teachers were kindly requested to fill out the questionnaire within ten days after its delivery and to post it in a special box at their school to guarantee completely privacy. In total 508 teachers (response rate 68%) answered to the questionnaire.

Data screening analysis was conducted to check deviations from normality (i.e. kurtosis and skewness) and to detect univari-

ate and multivariate outliers. We eliminated from the analysis 18 cases which presented kurtosis and skewness values $> |1|$ on all items of the UWES. Because these indices are affected by the presence of outliers, we calculated the z-scores on the variables of interest and eliminated all cases with z-scores $> |3|$ (Tabachnick & Fidell, 2001). Using the critical value of Mahalanobis distance ($\chi^2(3) > 16.26, p < .001$), two multivariate outliers were identified and subsequently dropped from the final analysis. Thus, a total of 488 subjects were finally included in the analysis.

Participants

Participants in the present study were 488 Italian school-teachers, working in different types of schools (24.2% in elementary school, 48.5% in lower secondary school, and 26.3% in upper secondary school). The majority were women (84.4%); and 65.8% were married. Most respondents were middle-aged; only 16.7% of the teachers were aged 35 and under; 26.5% were aged between 36 and 45; 21.1% between 46 and 50; and, 35.7% were aged over 50. Most respondents had considerable length of service, and 48% of them had over 20 years of teaching experience. About 82% of the sample had a permanent job, and 18% had some type of fixed-term contract. On average, participants worked 30.3 h per week ($SD = 7.6$).

Measures

Work Engagement was assessed with the UWES-17 (Schaufeli et al., 2002; Italian version Pisaniti, Paplomatas & Bertini, 2008) and UWES-9 (Schaufeli et al., 2006; Italian version: Balducci, Fraccaroli & Schaufeli, 2008). The participants who answered the UWES-17 item also answered the UWES-9 version, since the latter is

a subset of the former. The items of the UWES-17 are grouped into three subscales that reflect the three underlying dimensions of work engagement: vigour is measured with six items (e.g. "At my job, I feel strong and vigorous"); dedication with five items (e.g. "I'm enthusiastic about my job") and, absorption is measured with six items (e.g. "When I am working, I forget everything else around me"). The shortened version of the UWES (UWES-9; Schaufeli & Bakker, 2003; Schaufeli et al., 2006), is constituted by nine items that similarly reflect the three underlying dimensions of engagement, each of which is represented by three items. All items were scored on a 7-point frequency rating scale ranging from 0 (*never*) to 6 (*always*).

Personal development at work was assessed with five items of the Psychosocial Work Environment and Stress Questionnaire (PWSQ) (Agervold & Mikkelsen, 2004; Italian version: Guglielmi, Paplomatas, Simbula & Depolo, 2011). This scale assesses the possibility of employing one's abilities and the perceived meaningfulness of one's work; for example, "The job provides me with ample opportunities to use my skills and qualifications." Responses were given on a 5-point frequency rating scale, ranging from 1 (*never*) to 5 (*very often*).

Work-Family balance was measured with a three-item scale (Guglielmi et al., 2011) assessed on a frequency 5-point scale ranging from 1 (*never*) to 5 (*very often*). An example item is: "The anxieties and the working worries interfere with my possibility to satisfy the needs of my family"-*Reversed*.

Self-efficacy was assessed by an eight-item scale (Di Fabio & Taralla, 2006) which follows Bandura's recommendations (1997) to tailor scales of perceived self-efficacy to the par-

ticular domain of functioning that is the object of interest. Participants responded on a 5-point scale which ranged from 1 (*totally false*) to 5 (*totally true*). For example, "Thanks to my resources I'm able to manage unexpected situations in my job".

Job satisfaction was assessed with a single item (Wanous, Reichers & Hudy, 1997) which has already been used in diverse Italian research (see for example Guglielmi, Simbula, Depolo & Violante, 2011). The statement was, "Overall, how satisfied are you with your job?" which was scored on a 5-point scale which ranged from 1 (*totally unsatisfied*) to 5 (*totally satisfied*).

Organizational Citizenship Behaviour was assessed with two scales of a version of the scale which was slightly adapted to the Italian school context (Perrone & Chiacchierini, 1999) comprising, *Altruism* which included four items (e.g. "I help people who have a lot of work to do"); and *Civic Virtue*, also four items (e.g. "I attend meeting that are not obliged, but that they are considered important"). All items were scored on a 7-point scale ranging from 1 (*totally false*) to 7 (*totally true*).

Perceived health problems were assessed with the General Health Questionnaire-12 (Goldberg, 1992; Italian version: Fraccaroli & Schadee, 1993). The scale asks whether the respondent has experienced a particular symptom or behaviour recently. Each item is rated on a 4-point scale, ranging from 0 to 3, where higher scores indicate worse perceived health. Based on results of different international studies (e.g. Kalliath, O'Driscoll & Brough, 2004), the choice was to use the two factor model although other studies suggest using the three model factor. As in previous Italian studies (Politi, Piccinelli &

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Wilkinson, 1994) two dimensions were distinguished: (1) *Social Dysfunction*, which includes six items and assesses the ability to perform daily activities and to cope with everyday problems (e.g. "Being able to concentrate on what you're doing"); and, (2) *General Dysphoria*, which includes six items related to anxiety and depression (e.g. "Felt constantly under stress").

Results

Descriptives

The means, standard deviations, correlations and internal consistencies for all study variables are

presented in Table 1. All significant relationships between the variables were in the expected direction.

Correlation analysis revealed that the three factors of work engagement were strongly inter-related. Moreover, the three subscales of both versions of the UWES were positively associated with personal development, work-family balance, self-efficacy, satisfaction and organizational citizenship behaviours, whereas they were negatively related to perceived health problems.

Internal consistency for all variables ranged between .77 and .91 (Table 1); thus, all values of Cronbach's alpha exceeded the value of .70 that is traditionally

used of a rule of thumb (Nunnally & Bernstein, 1994). Moreover, for most of the variables, alpha satisfied the more stringent value of .80 that is now considered a generally accepted standard (Henson, 2001).

In order to determine the contribution of each item to internal consistency, the Corrected Item-Total Correlation for each of the items (Table 2). The text of the Italian version of the UWES is available from the first author upon request.

Confirmatory Factor Analysis

Structural equation modeling methods as implemented by AMOS 5 (Arbuckle, 2003), with maximum likelihood estimation

Table 1

Means (M), Standard Deviations (SD), Internal Consistencies (Cronbach's α), and Zero-Order Correlations of the Study (N = 488)

<i>Variable</i>	<i>M</i>	<i>SD</i>	<i>α</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>	<i>11</i>	<i>12</i>	<i>13</i>
1. Vigour	4.37	.85	.82													
2. Dedication	4.67	1.05	.91	.77**												
3. Absorption	4.59	.88	.82	.76**	.76**											
4. Vigour-3	4.41	1.01	.80	.86**	.86**	.70**										
5. Dedication-3	4.61	1.12	.85	.73**	.98**	.73**	.85**									
6. Absorption-3	4.69	.98	.79	.76**	.77**	.93**	.71**	.75**								
7. Personal Development	4.01	.73	.84	.61**	.74**	.57**	.65**	.71**	.60**							
8. Work-Family Balance	2.17	.88	.77	.29**	.21**	.08	.27**	.19**	.10*	.29**						
9. Self-efficacy	3.85	.67	.89	.53**	.43**	.34**	.46**	.42**	.39**	.38**	.16**					
10. Job Satisfaction	3.85	.81	n.a.	.52**	.61**	.42**	.59**	.59**	.42**	.55**	.31**	.32**				
11. Altruism	5.17	1.08	.79	.35**	.34**	.27**	.29**	.32**	.31**	.32**	.10*	.28**	.26**			
12. Civic Virtue	5.02	1.21	.78	.35**	.33**	.29**	.28**	.31**	.28**	.31**	.07	.32**	.25**	.48**		
13. Social Dysfunction	1.08	.39	.86	-.31**	-.33**	-.22**	-.33**	-.32**	-.24**	-.31**	-.25**	-.25**	-.26**	-.11*	-.17**	
14. General Dysphoria	.69	.58	.85	-.33**	-.33**	-.22**	-.36**	-.31**	-.24**	-.34**	-.48**	-.24**	-.37**	-.05	-.10*	.44**

*Note. Vigour, Dedication and Absorption refer to UWES-17; Vigour-3, Dedication-3, Absorption-3 refer to UWES-9. *p<.05. **p<.001.*

Table 2
Correlated Item-Total Correlation

<i>Variable</i>	<i>Correlated Item Total Correlation</i>
At my work, I feel that I am bursting with energy* (Vi-1)	.63
At my job, I feel strong and vigorous (Vi-2)*	.72
When I get up in the morning, I feel like going to work (Vi-3)*	.54
I can continue working for very long periods at a time (Vi-4)	.55
At my job, I am very resilient, mentally (Vi-5)	.60
At my work I always persevere, even when things do not go well (Vi-6)	.45
I find the work that I do full of meaning and purpose (De-1)	.71
I am enthusiastic about my job (De-2)*	.80
My job inspires me (De-3)*	.74
I am proud on the work that I do (De-4)*	.78
To me, my job is challenging (De-5)	.83
Time flies when I'm working (Ab-1)	.59
When I am working, I forget everything else around me (Ab-2)	.54
I feel happy when I am working intensely (Ab-3)*	.61
I am immersed in my work (Ab-4)*	.70
I get carried away when I'm working (Ab-5)*	.71
It is difficult to detach myself from my job (Ab-6)	.42

*Note: * Short version; Vi = Vigour; De = Dedication; Ab = Absorption.*
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methods, were used to evaluate the factorial validity of both (original and short) versions of the UWES.

To establish fit, the following indices were used for all tests: the χ^2 goodness-of-fit statistic, the Comparative Fit Index (CFI; Bentler, 1989, 1990), the Non-Normed Fit Index (NNFI; Tucker & Lewis, 1973; Bentler & Bonnett, 1980), the Root Mean Square Error of Approximation (RMSEA; Steiger, 1989), and the Akaike's Information Criterion (AIC; Akaike, 1974). Because the χ^2 is sensitive to sample size, the use of relative goodness-of-fit measures is strongly recommended (Bentler, 1990). The fit can be considered acceptable when the CFI and NNFI are greater than .90 and the RMSEA is equal to or smaller than .08 (Bentler, 1990; Steiger, 1990). Finally, the AIC is a relative measure of parsimony of models, with a lower AIC denoting a more parsimonious model

(Akaike, 1974). Nested models were compared using the chi-squared difference test.

Table 3 shows the fit indices of the one-factor and three-factor models of both versions of the UWES. Irrespective of the underlying factor structure (M1, M2 in the table), the UWES-17 fitted the data poorly with CFI and NNFI not meeting the criterion of .90 and RMSEA exceeding the criterion of .08. For the UWES-9, a marginally acceptable fit was found for the three-factor model (except for RMSEA > .08). In addition, a smaller AIC and a significant result in the chi-squared difference test ($\Delta\chi^2$ (df = 3) = 68.72, $p < .001$) revealed a superior fit for the three-factor model (M4) than the one-factor model (M3). Table 4 shows all factor loadings for M2 and M4. However, although the three-factor model of the UWES-9 fitted the data significantly better

than the alternative one-factor model, its fit did not reach the recommended criterion of good fitted models for all indices.

In order to improve the fit, the so called Modification Indices for M4 were inspected. In fact, the fit was improved by correlating the following two error covariances: VI-1/VI-2; and AB-2/AB-3. The revised model (M5) fitted significantly better to the data than M4 ($\Delta\chi^2$ (df = 2) = 83.77, $p < .001$) with RMSEA, NNFI and CFI meeting their respective criteria (Table 3). The standardized factor loadings for the final model (M5) were all statistically significant with a $p < .001$ and ranged from .68 to .85.

Reliability and correlations of the UWES

As mentioned before, all of the Cronbach's alpha coefficients were higher than .70 for both UWES versions (Table 1). All of the items

Table 3
Model fit

<i>Model</i>	χ^2	<i>df</i>	<i>CFI</i>	<i>GFI</i>	<i>NNFI</i>	<i>RMSEA</i>	<i>AIC</i>	<i>Model comparison</i>	$\Delta\chi^2$	Δdf
UWES-17										
M1: 1-factor	805.30***	119	.86	.82	.84	.11	873.30			
M2: 3-factor	668.64***	116	.89	.84	.87	.10	742.64	M1-M3	133.66***	3
UWES-9										
M3: 1-factor	247.40***	27	.91	.89	.89	.13	283.40			
M4: 3-factor	178.68***	24	.94	.92	.91	.11	220.68	M3-M4	68.72***	3
M5: 3-factor revised	94.91***	22	.97	.96	.95	.08	140.91	M4-M5	83.77***	2
<i>Note. ***p<.001.</i>										

Table 4
Factor loadings for UWES-17 (M2) and UWES-9 (M4).

Item	UWES-17			UWES-9		
	Vigour	Dedication	Absorption	Vigour	Dedication	Absorption
(Vi-1)*	.73			.77		
(Vi-2)*	.80			.81		
(Vi-3)*	.72			.74		
(Vi-4)	.58					
(Vi-5)	.59					
(Vi-6)	.51					
(De-1)		.75				
(De-2)*		.83			.85	
(De-3)*		.79			.79	
(De-4)*		.81			.80	
(De-5)		.89				
(Ab-1)			.68			
(Ab-2)			.58			
(Ab-3)*			.72			.73
(Ab-4)*			.77			.78
(Ab-5)*			.79			.77
(Ab-6)			.46			

Note: * Short version; Vi = Vigour; De = Dedication; Ab = Absorption.
All factor loadings were significant at $p < .001$.

were found to be significantly correlated, with inter-item correlations ranging from .25 and .69. The correlations between the original and short version of the scales were .86, .98 and .93 for vigour, dedication and absorption, respectively.

Cluster analysis

Following the results from the CFA, the three subscales (vigour, dedication and absorption) of the UWES-9 were used

as grouping variables. As recommended by Gordon (1999), we followed a two-step procedure in identifying cluster groups. Firstly, hierarchical clustering using Ward's (1963) clustering method with squared Euclidean distances were used to determine how many clusters to expect and where to place the initial cluster centres. Then, k-means cluster analysis procedures were used to group individuals. This combination of clustering methods

capitalizes on the strengths of both methods and compensates for their weaknesses (Fisher & Ransom, 1995; Henry, Tolan & Gorman-Smith, 2005).

An examination of the agglomeration schedule, dendrogram, and percentages of individuals in each cluster for each solution indicated that a two-cluster solution minimized the differences of individuals within clusters and maximized the heterogeneity of individuals between clusters.

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Using the two-cluster solutions and initial cluster centres obtained from the hierarchical analysis, a k-means cluster analysis was computed to reassign observations on the basis of the minimization of distances between each observation and cluster centres.

Interpretive criteria of the work engagement patterns of the two cluster groups were based on norm scores for the UWES-9, available from the test manual for the UWES (Schaufeli & Bakker, 2003, downloadable at www.wilmarschaufeli.nl); similar scores were obtained by applying to our sample the same definition of statistical norms of the International Database of the UWES (see Schaufeli & Bakker, 2003; cf. www.wilmarschaufeli.nl) and by using standard deviations as a cut-off criteria in order to identify groups.

The means for both clusters on all variables included in the study are presented in Table 5. The first cluster (named *highly engaged*), which characterized 61.2% of the participants (n = 299), shows high levels on

all three subscales of UWES-9, whereas the second cluster (named *average engaged*), characterizing 38.8% of the participants (n = 189), shows moderate levels on all UWES-9 subscales.

Demographic characteristics

Firstly, we compared the highly engaged group and the average engaged group with regard to demographic characteristics (i.e. gender, type of school, marital status, age, job tenure, type of contract). The results from chi-square tests showed that the two groups differed only in terms of gender, [$\chi^2(1) = 3.94, p < .05$] and type of school [$\chi^2(2) = 19.85, p < .001$]. In particular, the highly engaged group comprised more female teachers, as well as teachers working in elementary schools.

Organizational and personal characteristics

Using MANOVA, we evaluated statistically the differences between the two clusters on all

scales presented above (Table 5).

We found an overall significant multivariate effect of engagement group, with Wilks' $\lambda = .59, F(8, 479) = 36.99, p = .000$, partial $\eta^2 = .41$. Subsequent univariate analysis of variance (ANOVAs) indicated that the clusters differed significantly on each scale considered (Table 5). In particular, teachers from cluster 1 showed higher levels of personal development, work-family balance, self-efficacy, work satisfaction, altruism and civic virtue, whereas they showed lower levels of health problems in comparison with cluster 2.

The last column of Table 5 shows the partial eta squared (η^2). Partial eta squared measures the proportion of variability associated with an effect when the variability associated with all other effects identified in the analysis has been removed from consideration (Richardson, 2011). Cohen (1969) has suggested values of .0099, .0588, and .1379, respectively to indicate small, medium, or large effects for this measure of the pro-

Table 5
Between groups differences for all variables (N = 488)

Variable	Group 1 (Highly engaged) n = 299		Group 2 (Average engaged) n = 189		F(1,486)	Partial η^2
	M	SD	M	SD		
Personal Development	4.36	.54	3.45	.63	280.15***	.37
Work-Family Balance	3.91	.88	3.69	.85	7.99**	.02
Self-efficacy	4.04	.63	3.55	.60	69.11***	.12
Job Satisfaction	4.15	.71	3.38	.74	130.22***	.21
Altruism	5.39	1.05	4.83	1.04	32.82***	.06
Civic Virtue	5.23	1.16	4.67	1.22	26.93***	.05
Social Dysfunction	1.01	.38	1.19	.38	27.66***	.05
General Dysphoria	.59	.55	.87	.60	28.27***	.06

Note: *** $p < .001$; ** $p < .01$.

portion of variance explained. Thus, in our analysis the proportion of variance between engaged groups can be considered from high to small magnitude.

Discussion

Work engagement is an emergent psychological concept that is relevant for the optimal functioning of employees in organizations. As Schaufeli and Salanova (2008) have argued, in order to survive in today's continuously changing environment, modern organizations need engaged employees, that is, employees who feel energetic and dedicated, and who are absorbed by their work. The present study produced new knowledge about the psychometric properties of the Italian version of the UWES, as well as the characterization of engagement groups.

Currently, to our knowledge, there are two studies that investigated the Italian version of the UWES. The first study assessed the factor structure of the UWES-17 (Pisanti et al., 2008) among health organization employees, whereas the second study investigated the factor structure of the UWES-9 (Balducci et al., 2008), by using Italian and Dutch white collar employees. However, to our knowledge, this is the first time in which both (original and short) versions of UWES were examined in the same study and among schoolteachers.

As in previous studies on work engagement (Schaufeli & Bakker, 2003; Schaufeli et al., 2006) the correlated three-factor structure of the UWES fitted better to the data than the one-factor structure. Overall, the UWES-9 displayed satisfactory levels of psychometric properties. In fact, while confirmatory factor analyses revealed an unsatisfactory fit for the original version (UWES-17), the three-factor model of the UWES-9 dis-

played the best model fit with the lowest chi-square statistic, and AIC, while the highest CFI, and NNFI. This result is in line with other studies, in which the UWES-9 exhibited stronger psychometric properties than the UWES-17 (Fong & Ng, 2012; Nerstad, Richardsen & Martiniusen, 2010; Shimazu et al., 2008). In addition, the fit was further improved by allowing two measurement errors within subscales to correlate. Although the superior fit of the three-factor model supports the notion of the three dimensional nature of work engagement, the three dimensions were highly inter-related. This suggests that work engagement may be regarded as a three-dimensional as well as a one-dimensional construct. This is also in line with previous studies (Schaufeli & Bakker, 2010) which found the same high correlations and also with Schaufeli et al.'s (2006) suggestion of computing a total score as an overall indicator of work engagement. Furthermore, the internal consistency of the three scales of the UWES was good for the UWES-17 as well as for the UWES-9. Values for internal consistency were well above the suggested threshold of .70 (Nunnally & Bernstein, 1994).

Finally, through a cluster-analysis, we found that highly engaged teachers differ from their less engaged colleagues in terms of various outcomes correlates. To be specific, teachers who feel more engaged showed higher levels of personal development, self-efficacy, job satisfaction, organizational citizenship behaviours, work-life balance, and have fewer health problems. However, in some cases the effect size associated with the univariate F test was medium or small (particularly work-family balance). Nevertheless, according to Richardson (2011) the interpretation of this measure needs to be undertaken

with care.

Consistent with previous studies (Schaufeli & Bakker, 2003; Schaufeli & Salanova, 2008), our findings suggested a strong relationship between work engagement and job resources. In particular, teachers who are more engaged may find it easier to take advantage of opportunities provided by the work situation, for example through personal development in work, which provides the possibility of developing one's abilities and improving the perceived meaningfulness of work (Agervold & Mikkelsen, 2004). As expected, teachers who feel more engaged also show more self-efficacy beliefs, which is in line with the hypothesized "upward spiral" (Llorens et al., 2007; Salanova et al., 2005). Moreover, when a particular organizational citizenship behaviour such as altruism is considered, these results are in line with previous findings concerning the link between engagement and positive organizational behaviour, which suggests that engaged workers seem to be willing to "go the extra mile" (Salanova & Schaufeli, 2008; Schaufeli & Salanova, 2008; Sonnentag, 2003). Finally, teachers who feel more engaged seem to be more satisfied with their jobs and seem to enjoy better mental health, which is also in line with previous studies (Demerouti, et al., 2001; Schaufeli & Bakker, 2003).

Study Limitations

The current study has also some limitations that should be mentioned. Firstly, the data were based on self-reported measures. Objective indicators, such as biomedical measures (e.g. blood pressure), behavioural measures (e.g. sickness absence) and organizational measures (e.g. turnover), should be employed in future studies in order to minimize the potential

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effects of common method variance. The second limitation is that the data consisted only of school-teachers, which restricts the possibility of generalizing the results across other occupations. Finally, with respect to the cluster analysis, we found only teachers who could be characterized as *average engaged* or *highly engaged*; that is, we were not able to identify *low engaged* teachers. A check on the International Database of the UWES, by selecting only the sample of school teachers (N=3506), shows that the scores that we found for Italian teachers were similar compared to those of teacher samples from other countries, with the exception of the Absorption dimension that seems to be higher (M = 4.69; SD = .98 vs M = 3.91; SD = 1.21; $t_{(3992)} = 13.63$; $p = .000$) compared to teachers included in the International Database. However, our scores are quite in line with those of Hakanen, Bakker and Schaufeli (2006), who, in a sample of 2,038 Finnish school teachers, used the two scales assessing vigour (M = 4.51, SD = .99; $t_{(2524)} = 2.00$; $p = .05$) and dedication (M = 4.72; SD = 1.12; $t_{(2524)} = 1.95$; $p = .05$). Taken together these findings suggest that in the International Database, teachers show on average *middle* or *high* scores on the three scales of the UWES.

Conclusion

The results of the current study showed that the short UWES can be used in Italy among teachers for assessing and monitoring levels of engagement.

Consistent with previous studies (Schaufeli & Salanova, 2008) our results indicate that engagement is positively related to job and personal resources, organizational attitudes and behaviours,

and perceived health. As a consequence, it is evident that work engagement is not only important for individual employees, but also for organizations. Moreover, research on the Model of Work Engagement (Bakker & Demerouti, 2008) suggests that work engagement mediates the relationship between specific job resources and positive work outcomes. Thus, schools could increase the most important job resources for teachers (e.g. opportunities for learning and development), so that engagement and eventually positive organizational attitudes and behaviours are fostered.

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SUMMARY. *The current study explored the psychometric properties of the Italian versions of the Utrecht Work Engagement Scale (UWES-17 and UWES-9). In particular, the aims were: (1) to evaluate its factorial validity, in which we compared the fit of the one-factor model to that of the three-factor model for various versions of the UWES; (2) to inspect the scale's reliability through Cronbach's alpha and inter-item correlation; and, (3) to classify teachers on the basis of their work engagement levels, using cluster-analyses, and to determine whether engaged teachers differ from their less engaged colleagues in terms of various outcomes correlates. Confirmatory factor analysis supported the hypothesized three-factor structure — vigour, dedication, absorption — of both UWES scales. However, while the three-factor structure of the UWES-17 did not show a good approximation to the data, the UWES-9 showed an acceptable fit. Results of cluster analysis revealed that teachers who feel more engaged show higher levels of positive attitudes compared with those who are less engaged. To sum up, our findings showed that the short UWES can be used in Italy among schoolteachers for assessing and monitoring levels of work engagement.*

Keywords: UWES, work engagement, schoolteachers

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