

# A Psychometric Study of Work Engagement in a Vietnamese Sample

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**Abstract:** The study aims to investigate, compare the relationship between the individual psychological characteristics of the teachers of public colleges and universities in the engagement of their work in creating effective quality training to meet the needs of social and economic integration international. Method using UWES (The Utrecht Work Engagement Scale). The relationship between individual psychology characteristics of teachers and variables of work engagement is very meaningful for effective teaching and training quality. Analysis of variance further found that the significant variance between individual teacher's psychology characteristics and dimensions as vigor, dedication and absorption of work engagement.

**Keywords:** Work engagement, Passive Psychology.

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## I. INTRODUCTION

Work engagement was defined as "a positive status, completion of work relating to the State of the spirit which is characterized by vigor, dedication, and absorption" (Schaufeli, Salanova, Gonzalez Romá, & Bakker, 2002, p 74). Individuals engaged in the energy for their work, to feel connected to their work, and better able to deal with the demands of work (Schaufeli & Salanova, 2007). Vigor is characterized by energy, the ability to restore morale, willingness to invest of an effort, and persistence (Schaufeli, Salanova et al., 2002). The dedication was characterized by "a sense of significance, enthusiasm, inspiration, pride, and challenge" (Schaufeli, Salanova et al., 2002, 74). Absorption is characterized by being engrossed in one's work, to the extent that time passes quickly and it is difficult to separate myself from the work (Schaufeli, Salanova et al., 2002).

Utrecht Work Engagement Scale (UWES; Schaufeli & Bakker, 2003) been developed to measure the size of the work engagement including the energy, dedication and absorption. Because the UWES is available in 17 languages (Schaufeli & Salanova, 2007b), score response has been psychometrically evaluates more than ten countries. Study on effect factor indicates the score on the UWES is best represented by three factors on culture (Schaufeli, Bakker, & Salanova, 2006; Schaufeli, Martinez, Marques-Pinto, Salanova, & Bakker, 2002; Schaufeli, Salanova et al., 2002); However, not all items are invariant across all countries (Schaufeli et al., 2006; Schaufeli, Martinez et al., 2002). The structure of the UWES is examined in a sample of Vietnamese.

## II. SUBJECT

Six hundred and eighty six (686) of the four colleges and universities in Phu Yen province of Vietnam have been chosen to respond to the psychological survey. 599 rendered the voting questions accounting for 81.5%, of which 326 are male faculty with rate of 54.4% and 273 are women faculty accounted for 45.6%.

### III. METHOD

Measurement of the level of work engagement has been conducted with UWES (Utrecht Work Engagement Scale), designed by Schaufeli. The scale comprises three elements: vigour, dedication, and absorption. Scale UWES 2003. Version 1, list questions consists of 17 questions which were translated into Vietnamese language from the English and Russian to ensure semantics. 17 items of the scale can analyze on 3-factors model (Vigor, Dedication, Absorption) or 1-factor model (engagement) (Wilmar Schaufeli & Arnold Bakker, 2003).

### IV. DATA ANALYSIS

The answer sheets will be showed in statistics and processed by IBM SPSS Statistics 22.0 software. The survey is designed to measure the teacher engagement's level of engagement to their work, The variables used in this study is the score from UWES. Procedure analyse factors claims to have used the UWES. After the answered sheets are collected, Chronbach's Alpha is used to check the reliability of the equipment.

### V. RESULT

In this section analyzes some of the psychological attributes of work engagement measuring by UWES in a sample of Vietnamese, the descriptive statistics and audit results answer the question as follows:

1. Whether the three factors structure the score on UWES 17 items exist in a sample of Vietnamese?
2. The basic elements of the UWES 17 items in a model is what?
3. The most reliable estimates of the size of internal UWES is?
4. The level of work engagement in the work of Vietnamese people when using the UWES.

**Firstly 3-factor models** the most anterior tested reliability as follows:

**Vigor factor:** There are six items. Results Cronbach's Alpha is 0.747 and Cronbach's Alpha Based on Standardized Items is 0.753. In table 1 statistics factor Vigor, the Vigor 1 item has Cronbach's Alpha if item Deleted is 0.748 > 0.747 but it is no higher than the Alpha Cronbach's on Standarlized Items, so it should not need to remove the item (0.753 > 0.748 > 0.747). The items of equivalent significance if deleted.

**Dedication factor:** There are five items. Results Cronbach's Alpha is 0.852 and Cronbach's Alpha Based on Standardized Items 0.854, higher reliability than Vigor and Absorption. The items of group dedication-factors have Cronbach's Alpha if Items Deleted is under 0.852 and Cronbach's Alpha Based on Standardized Items is 0.854, so should not remove any items. See table 2

**Absorption factor:** There are six items. Results Cronbach's Alpha are: 0.789 and Cronbach's Alpha Based on Standardized Items 0.791. In the statistics table, items of All Cronbach's Alpha if items Deleted are smaller than 0.789 so should not remove any items. See table 3.

#### 1-factor model

**Engagement factor:** If the overall testing 1-factor model of UWES tool with 17 items. Cronbach's Alpha also produces the reliability of scales. Cronbach's Alpha test about the reliability of the UWES with 17 items entries is 0.916 which is very well in line with the target of research. table 17 below shows the 1-factor model with Cronbach's Alpha = 0.916 and if item Delect > 0.919 (not item deleted) reliability scale is very high, fine. Alpha meets the strict values of 0.80, which is now considered a common accepted standards (Henson, 2001).

### VI. DISCUSSION AND CONCLUSION

#### Research Question One

The result of the Cronbach's Alpha of the 3 factors model: group of factor Vigor is 0.747, groups of Dedication factor is 0.852, group of factor Absorption is 0.789 from the tools used in this study is similar to the pilot study and is considered to be within the acceptable range of reliability, (Nunnally, 1978; Peterson, 1994; Slater, 1995). As such, the value of

Cronbach's Alpha exceeds 0.70, which have traditionally been used as a rule of thumb (Nunnally & Bernstein, 1994). The credibility of one-factor model is also very high, Alpha Cronbach's  $> 0.8$  is considered general criteria for acceptance.

Empirical research suggests that both models demonstrate proper and acceptable, however a factor models have internal consistency reliability higher, better fit, see on Figure 1 and 2.

### Research Question Two

Linear correlation analysis model of 3 factors:  $H_0$  assumption does not have correlation factors Vigor, Dedication, Absorption, which means there is no linear relationship. Table 4 below shows. Correlation between VI and VI is 1, between VI and DE is 0.727 and between VI and AB is 0.791. These values indicate the positive connection factor quite tight. The meaning (SIG.) of less than 0.01, the correlation coefficients were computed from samples  $> 0.727$  while in fact there is not any else linear relationship between in VI, DE, AB is 0.000 smaller 0.01. If I use 1% significance hypothesis of correlation coefficient of zero was rejected. So the Vigor, Dedication and Absorption factors of high linear relationship.

In models with factor 1 section 17 also found a high degree of correlation, not necessarily deleted items.

### Research Question Three

Estimates score of internal consistency reliability of the UWES is examined in this study nearby or similar to those reported in the UWES manual for the international database: 17-item total scale ( $\alpha = .93$ ), vigor ( $\alpha = .82$ ), dedication, ( $\alpha = .89$ ) and absorption ( $\alpha = .83$ ) (Schaufeli & Bakker, 2003). In this study, high internal consistency of all scales and result analysis of the elements of exploration proposed scale UWES fit, see on Figure 1 and 2.

### Research Question Four

17 answered question which described statistics in table 6 below show the Mean score on the level of engagement of entries from 3.5-4.9, the Mean Score of vigor is lower than to the dedication and absorption, highest score is dedication.

Score of the overall level of engagement are also presented statistics by following table 7 shows: the level of engagement has a Mean Score of 4.3566 (SD 0.82374),  $N = 599$ , Mode = 4.59<sup>a</sup>. So about 50% of the Median Score is 4.47 at point between the (often and very often). Statistics show that the score Mean, Mode, Medium near each other, so the concentration of the sample is high. On the statistics table 7 also shows 25% reaching  $> 4.94$ , 25% hit points from 4.47-4.94, 25% from 3.88-4.47 and 25%  $< 3.88$ . So on the whole clause 50% level of work engagement is from moderate to low.

## REFERENCES

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**APPENDIX - A**

**Table 1: Item-Total Statistics of Vigor**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Vigor 1	21.6828	20.100	.363	.224	.748
Vigor 2	20.8698	19.485	.518	.337	.701
Vigor 3	20.7396	19.113	.593	.382	.682
Vigor 4	21.3105	18.753	.527	.291	.698
Vigor 5	20.5943	20.924	.478	.337	.714
Vigor 6	20.7212	19.603	.460	.267	.718

**Table 2: Item-Total Statistics of Dedication**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Dedication 1	18.0952	14.936	.633	.429	.829
Dedication 2	18.1703	14.439	.743	.567	.801
Dedication 3	18.2321	14.603	.736	.564	.803
Dedication 4	17.7362	15.452	.608	.375	.835
Dedication 5	18.6043	14.718	.608	.404	.837

**Table 3: Item-Total Statistics of Absorption**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Absorption 1	21.5659	21.059	.489	.270	.769
Absorption 2	21.9933	19.916	.563	.321	.752
Absorption 3	21.3239	21.049	.569	.352	.752
Absorption 4	21.8798	20.253	.536	.299	.758
Absorption 5	21.9566	19.928	.606	.387	.742
Absorption 6	22.1235	20.279	.490	.251	.771

**Table 4: Correlations analysis of three-factor model**

		Correlations		
		VI	DE	AB
VVI	Pearson Correlation	1	.727**	.791**
	Sig. (2-tailed)		.000	.000
	N	599	599	599
DDE	Pearson Correlation	.727**	1	.783**
	Sig. (2-tailed)	.000		.000
	N	599	599	599
AAB	Pearson Correlation	.791**	.783**	1
	Sig. (2-tailed)	.000	.000	
	N	599	599	599

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**Table 5: Item-Total Statistics of one-factor model**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Vigor 1	70.5609	177.815	.417	.302	.918
Vigor 2	69.7479	172.905	.643	.518	.910
Vigor 3	69.6177	173.370	.659	.498	.910
Vigor 4	70.1886	174.274	.547	.406	.913
Vigor 5	69.4725	178.213	.567	.425	.913
Vigor 6	69.5993	177.016	.479	.339	.915
Dedication 1	69.4474	174.378	.632	.518	.911
Dedication 2	69.5225	171.829	.753	.634	.908
Dedication 3	69.5843	172.588	.739	.626	.908
Dedication 4	69.0885	176.910	.578	.411	.912
Dedication 5	69.9566	172.216	.661	.536	.910
Absorption 1	69.4591	176.068	.558	.391	.913
Absorption 2	69.8865	174.505	.575	.404	.912
Absorption 3	69.2170	175.140	.660	.515	.910
Absorption 4	69.7730	173.761	.603	.403	.912
Absorption 5	69.8497	171.780	.698	.558	.909
Absorption 6	70.0167	175.655	.511	.320	.914

**Table 6: Descriptive Statistics of 17 items UWES**

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic
Vigor 1	599	6.00	.00	6.00	3.5008	.05940	1.45372	2.113
Vigor 2	599	6.00	.00	6.00	4.3139	.05212	1.27557	1.627
Vigor 3	599	6.00	.00	6.00	4.4441	.04995	1.22261	1.495
Vigor 4	599	6.00	.00	6.00	3.8731	.05632	1.37850	1.900
Vigor 5	599	6.00	.00	6.00	4.5893	.04499	1.10106	1.212
Vigor 6	599	6.00	.00	6.00	4.4624	.05529	1.35312	1.831
Dedication 1	599	6.00	.00	6.00	4.6144	.04956	1.21303	1.471
Dedication 2	599	6.00	.00	6.00	4.5392	.04746	1.16156	1.349
Dedication 3	599	6.00	.00	6.00	4.4775	.04671	1.14314	1.307
Dedication 4	599	6.00	.00	6.00	4.9733	.04742	1.16065	1.347
Dedication 5	599	6.00	.00	6.00	4.1052	.05237	1.28170	1.643
Absorption 1	599	6.00	.00	6.00	4.6027	.05094	1.24669	1.554
Absorption 2	599	6.00	.00	6.00	4.1753	.05348	1.30896	1.713
Absorption 3	599	6.00	.00	6.00	4.8447	.04608	1.12776	1.272
Absorption 4	599	6.00	.00	6.00	4.2888	.05307	1.29898	1.687
Absorption 5	599	6.00	.00	6.00	4.2120	.05085	1.24443	1.549
Absorption 6	599	6.00	.00	6.00	4.0451	.05601	1.37085	1.879
Valid N (listwise)	599							

**Table 7: Statistics of 17 item UWES**

**ENGAGEMENT**

N	Valid	599
	Missing	0
Mean		4.3566
Std. Error of Mean		.03366
Mode		4.59 <sup>a</sup>
Std. Deviation		.82374
Variance		.679
Skewness		-.839
Std. Error of Skewness		.100
Kurtosis		1.300
Std. Error of Kurtosis		.199
Sum		2609.59
Percentiles	25	3.8824
	50	4.4706
	75	4.9412

APPENDIX - B

a. Multiple modes exist. The smallest value is shown,

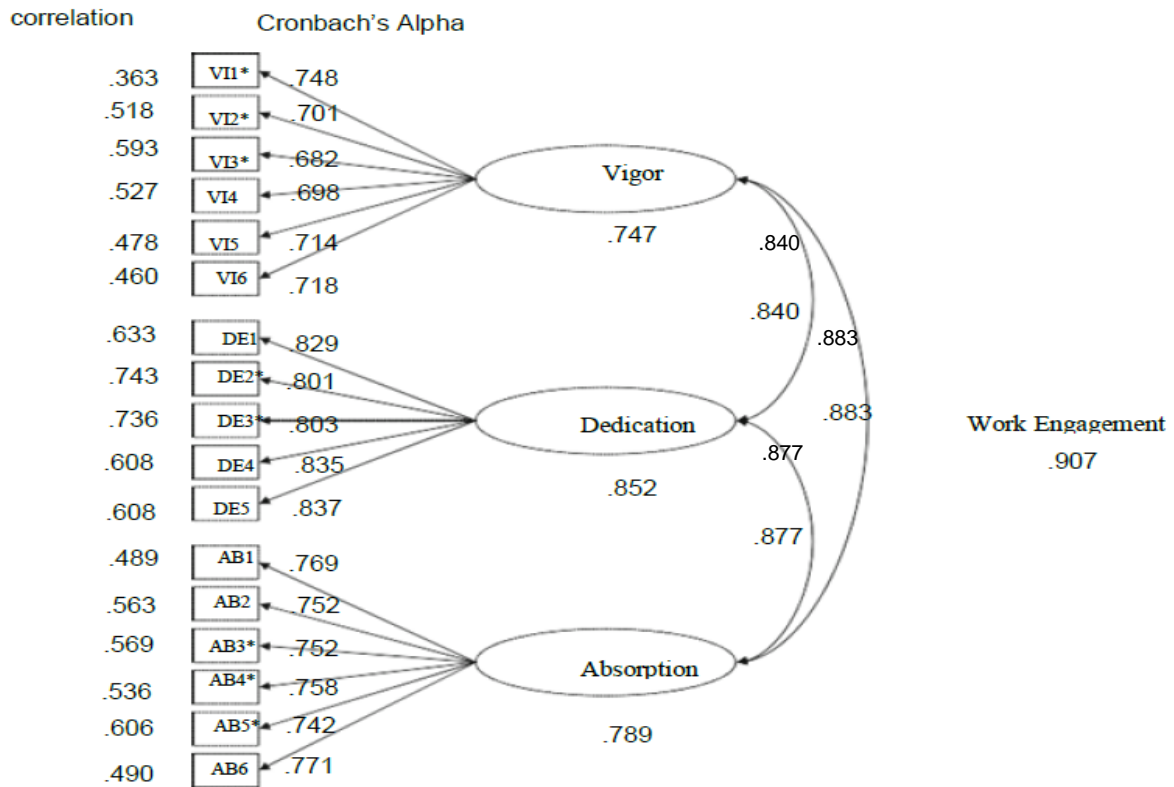


Figure 1: three-factors model, source: Wilmar Schaufeli & Arnold Bakker, 2003

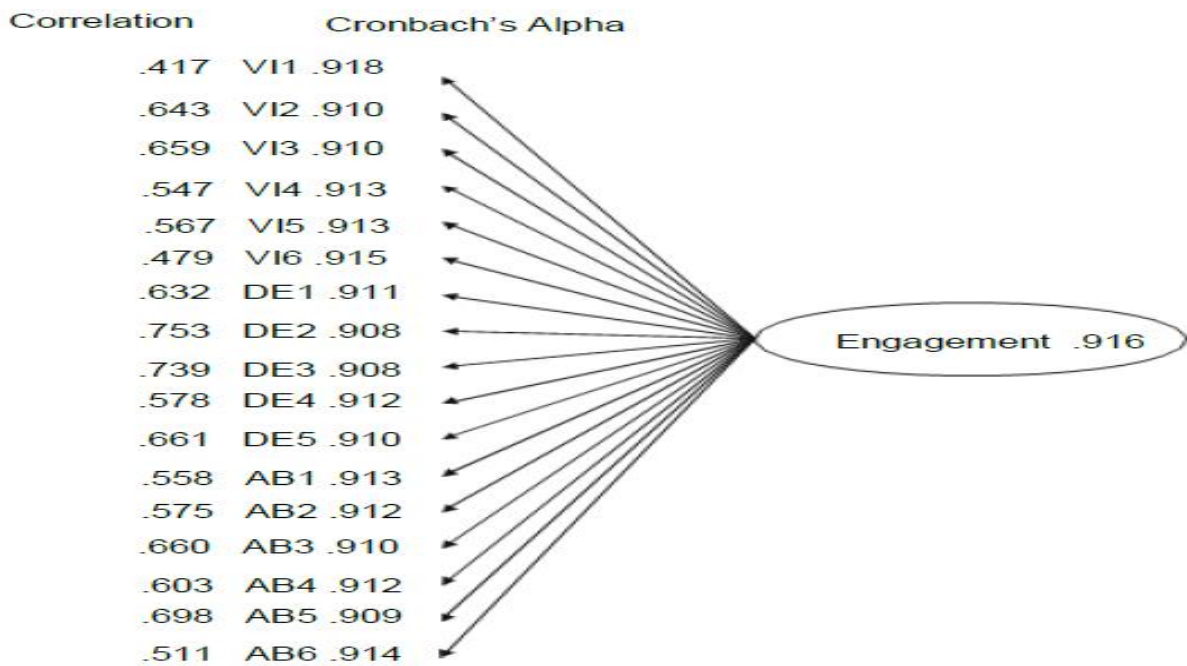


Figure 2: one-factor model, source: Wilmar Schaufeli & Arnold Bakker, 2003