Validation of Nepalese Version of Utrecht Work Engagement Scale

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Abstract: Validation of Nepalese Version of Utrecht Work Engagement Scale: Bimala PANTHEE, et al. Department of Psychiatric Nursing, Graduate School of Medicine, The University of Tokyo—Objective: The objective of the current study was to examine the psychometric properties of the Nepalese version of the Utrecht Work Engagement Scale (UWES-N) in a sample of hospital nurses. **Method:** Registered nurses from three hospitals in Nepal (total N=438) voluntarily completed a self-administered paper-and-pencil questionnaire. **Results:** Confirmatory factor analysis revealed that the hypothesized three-factor model of the 9-item version of the UWES-N (UWES-N-9) fitted the data best. The internal consistency of the scale was acceptable. Work engagement was positively related to job satisfaction, job performance, happiness and health, and it was negatively related to psychological distress, confirming its construct validity. **Conclusions:** In conclusion, the findings of our study indicated that the UWES-N-9 has satisfactory psychometric properties and provided supportive evidence for use of the UWES-N-9 in the Nepalese context.

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Key words: Utrecht work engagement scale, Validation, Work engagement

With the emergence of positive psychology, psychology became not only the study of pathology, weakness and damage but also the study of strength and virtue¹⁾ to help people become stronger and more productive and increase their potential. Detecting such psychological strength is an important part of research and practice²⁾. Recently, work engagement has been identified as one of the positive states, as opposite

to burnout³⁾. Engaged workers have high levels of energy and identify strongly with their work⁴⁾. Thus, work engagement is defined as a positive, fulfilling work-related state of mind that is characterized by vigor (i.e., 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), dedication (i.e., a sense of significance, enthusiasm, inspiration, pride and challenge) and absorption (i.e., being fully concentrated and happily engrossed in one's work, whereby time passes quickly and one has difficulties detaching oneself from work)³⁾.

Previous studies found that work engagement has been positively associated with job satisfaction and quality of life⁵⁾, happiness⁶⁾, health⁷⁾, job performance and life satisfaction⁸⁾ and negatively associated with ill health⁸⁾. To sum up, work engagement is associated with better well-being.

Before we can investigate work engagement, we need a valid measurement tool to accurately and consistently measure work engagement. The Utrecht Work Engagement Scale (UWES)³⁾ has been extensively studied to measure work engagement. The development of this scale was based on the theoretical definition of work engagement, which included three dimensions, vigor, dedication and absorption. Both long (17-item) and short (9-item) versions are available. The translated versions of the UWES, including the Dutch, Spanish, Chinese and Japanese versions, have been widely adopted in many international studies^{3, 9–11)}. In addition, the scale has been shown to have acceptable psychometric properties across cultures¹²⁾.

Nepal is a small developing country. For over a decade, it has been facing political instability, which has been directly influencing job security and economic uncertainty. In addition, the direct influence of politics on the work environment is another issue in Nepal. Despite the adverse work environ-

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ment, every organization seeks highly motivated and energetic (engaged) employees. Therefore, we believe that the time has come to follow the lead of positive psychology such as work engagement. As in other developed countries, the concept of work engagement might be fruitful for the study and practice of well-being among Nepalese workers. In order to study and apply the concept of work engagement in Nepal, the first step involves validation of the Nepali version of the UWES (UWES-N).

The objective of this current study was to examine the psychometric properties of the UWES-N. More specifically, we aimed (1) to evaluate the factorial validity by comparing the fit of the three-factor model to that of the one-factor model (which assumes that all items load on one single underlying dimension) for both the 17-item version and 9-item version of the UWES-N. Since the three dimensions are closely related, we chose the one-factor model (2) to examine the scale reliability using Cronbach's alpha, (3) to confirm the construct validity by examining the relationship between work engagement and its potential outcomes (psychological distress, overall health, job satisfaction, happiness and job performance) and (4) to explore the relation of work engagement with demographic characteristics. Overall, we hypothesized that the UWES-N will show adequate construct validity in the Nepalese context.

Methods

Translation

The translation procedure followed the established guideline¹³⁾. First, two independent translators (a freelance translator and a member of the Nepal Notary Public Council) translated the English version of the Utrecht Work Engagement Scale (UWES) into Nepali. The first author of the current study (BP) compared the two independent forward translations and prepared the final forward translation into Nepali after discussion with the forward translators. Then, two independent bilingual persons (an individual with a medical degree and a researcher in the field of chemical biology) performed back-translation into English. We compared the original English and back-translated versions and created a preliminary Nepalese version after correcting some of the words, meanings and contents for each item in cooperation with the original developer of the UWES (WS). The preliminary version was tested in a pilot study with 20 Nepali participants who were working in Japan on a working visa. Some additional words and concepts were corrected after the pilot study. For instance, most participants were confused about the item "It is difficult to detach myself from my job" in the absorption subscale. The respondents preferred to know the

reason for having difficulties in detaching themselves; therefore, one additional item was added, that is, "It is difficult to detach myself from my job because I enjoy my work", to see whether we could find any significant differences in the reasons behind the problem of detachment. The item was added to the end of the questionnaire.

Participants

The participants in this study were registered nurses in Nepal. As nurses are frontline service providers in the health-care system in Nepal and are generally present to their allocated place (94%) in comparison with the doctors (88%)¹⁴⁾, they have a crucial role in improving the health of the community. Therefore, it is most important to evaluate the well-being of nurses. Participation in this study was voluntary, and anonymity was guaranteed. We recruited nurses from three hospitals. Two hospitals were located in the capital city of Nepal (Kathmandu) (Central Development Region), and one hospital was located in the Western Development Region of Nepal (Rupandehi). In total, we distributed 587 questionnaires and received 455 back, giving us a response rate of 77.5%. Because of missing values on the key items, 438 questionnaires were used in the final analysis, representing a final response rate of 74.5% of the response rate. The mean age of the respondents was 30.85 years (SD=9.95), and the mean work experience was 9.41 years (SD=9.61).

All nurses/participants were informed about the objectives of this study via the nurse in charge of each department. Questionnaires along with envelopes were distributed and collected through each department in charge to maximize the response rate. In addition, the questionnaires were returned by the participants in sealed envelopes to ensure their privacy. Consent from participants was confirmed based on their voluntary completion and submission of the questionnaires. The ethics committee of The University of Tokyo, Nepal Health Research Council and the associated hospitals approved the study procedures before the study began.

Measures

Work engagement was assessed using the preliminary Nepalese Version of the Utrecht Work Engagement Scale (UWES-N) comprising three subscales/dimensions assessing vigor, dedication and absorption. Both long and short versions are available. The long version is a 17-item scale, with 6 items measuring vigor, 5 items measuring dedication and 7 items measuring absorption. The short version is a 9-item scale consisting of 3 dimensions, vigor, dedication and absorption. Each dimension has 3

items. All items are scored on a 7-point Likert scale ranging from 0 (“Never”) to 6 (“Always”) in both versions.

Job performance was assessed by a single item from the World Health Organization Health and Work Performance Questionnaire (HPQ)¹⁵, which asks the participants to rate their overall work performance during the past 30 days on a 0- to 10-point Likert scale, with 0 indicating “Worst performance” and 10 indicating “Best performance”.

Job satisfaction was assessed using a single item¹⁶, i.e., “How satisfied are you with your job in general?” measured on a 5-point Likert scale, with 1 indicating “Extremely satisfied” and 5 indicating “Not satisfied at all”.

Overall health was assessed using 1 self-constructed item, i.e., “In general, how would you say your health is?” measured on a scale from 1 “Excellent” to 5 “Poor”.

Happiness was assessed by a single question¹⁷, i.e., “Taking everything into account, how happy are you with your life?” measured on a 4-point Likert scale, with 1 indicating “Very unhappy” and 4 indicating “Very happy”.

Psychological distress was assessed using a Nepalese version of psychological distress questionnaire (k6)¹⁸, with items measured on a 5-point Likert scale ranging from 1 indicating “Always” to 5 indicating “Never”. This 6-item questionnaire assesses both anxiety and depression. Cronbach’s alpha coefficient for this study sample was 0.81.

Most constructs were measured with a single item. One of the reasons for using one-item questionnaires is the lack of availability of Nepalese versions of questionnaires.

Statistical analysis

Exploratory factor analysis, correlation analysis, reliability analysis and other descriptive analyses were conducted using SPSS version 21. Confirmatory factor analysis (CFA) of both the 17-item and 9-item versions of the UWES-N was performed in AMOS¹⁹ version 21 using structural equation modeling (SEM) methods. Maximum likelihood estimation was used to examine goodness of fit of the models using the following criteria²⁰ for goodness of fit indices: GFI ≥ 0.95 , AGFI ≥ 0.90 , PGFI ≥ 0.80 , TLI ≥ 0.90 , CFI ≥ 0.90 , RMSEA ≤ 0.08 and a small AIC that would indicate a more parsimonious the model. Cronbach’s alpha coefficients were calculated for overall engagement, vigor, dedication and absorption subscales. Since calculating Cronbach’s alpha may not be sufficient for measuring the homogeneity of each item²¹, we also reported inter-item correlations.

Results

Factor structure

First, we employed exploratory factor analyses of both 17- and 9-item questionnaires. Principal axis factoring with promax rotation confirmed the existence of a three-factor structure in the 17-item version of the UWES-N (UWES-N-17) (Table 1) and a two-factor structure in the 9-item version of the UWES-N (UWES-N-9) (Table 2). The three factors in the UWES-N-17 and two factors in the UWES-N-9 with eigenvalues greater than one were extracted, accounting for 43.5 and 49.2% of the total variance, respectively. The correlation between an item added to the absorption subscale, “It is difficult to detach myself from my job because I enjoy my work”, and the original item, “It is difficult to detach myself from my job”, was 0.67, which is marginally high. Therefore, we continued the analysis with the original 17 items. Though three factors emerged for the UWES-N-17, the factor structure was not consistent with that of the original version. For instance, 7 items loaded on the first factor, 5 items loaded on the second factor, and the remaining 5 items loaded on the third factor. Each factor consisted of items related to either vigor, dedication or absorption (i.e., no items related to vigor, dedication and absorption were loaded on their respective factor) (Table 1). However, the UWES-N-9 had a two-factor structure, with items measuring absorption (AB3, AB4, AB5 and dedication (DE2, DE3, DE4) loaded on the first factor and those measuring vigor (VI1, VI2, VI3) loaded on the second factor, except for one item for vigor (VI3), i.e., “When I get up in the morning, I feel like going to work”, which loaded on both factors (loadings of 0.40 and 0.36 on factors 1 and 2, respectively) (Table 2). Consequently, we decided to test one-factor, two-factor and three-factor solutions by CFA.

Although we found different factor structures, with three factors for the UWES-N-17 and two factors for the UWES-N-9, we considered the concept and theory of work engagement to test the fit of these models so that the study results would be comparable to other international studies. Therefore, we assessed the fit of the three models (i.e., one-factor, two-factor and three-factor models). First, we assessed the fit of the one-factor model. All items loaded significantly on the latent factors of both the UWES-N-17 and UWES-N-9 ($p < 0.001$). Next, we assessed the fit of the two-factor model (i.e., absorption and dedication factor and vigor factor) of the 9-item version. We then tested the hypothesized three-factor solution for both the UWES-N-17 and UWES-N-9. As can be seen in Table 3, the three-factor solution fitted the data best for both the UWES-N-17 and UWES-N-9.

Table 1. Factor loadings for the 17-item Nepalese version of the UWES (UWES-N-17) by exploratory factor analysis with the principal axis factoring method and promax rotation (N=438)

SN	Item	Factors		
		1	2	3
10	I am proud of the work that I do (DE4*)	0.795	−0.096	0.063
7	My job inspires me (DE3*)	0.791	−0.034	−0.056
5	I am enthusiastic about my job (DE2*)	0.619	0.211	−0.003
9	I feel happy when I am working intensely (AB3*)	0.586	−0.081	0.178
8	When I get up in the morning, I feel like going to work (VI3*)	0.431	0.336	−0.086
16	It is difficult to detach myself from my job (AB6)	0.369	0.232	−0.034
2	I find the work that I do full of meaning and purpose (DE1)	0.326	0.204	0.176
1	At my work, I feel bursting with energy (VI1*)	−0.090	0.691	−0.096
4	At my job, I feel strong and vigorous (VI2*)	0.173	0.581	−0.012
3	Time flies when I'm working (AB1)	0.076	0.478	0.105
12	I can continue working for very long periods at a time (VI4)	−0.007	0.415	0.175
6	When I am working, I forget everything else around me (AB2)	−0.043	0.389	0.186
14	I get carried away when I'm working (AB5*)	0.102	−0.174	0.853
17	At my work I always persevere, even when things do not go well (VI6)	−0.110	0.241	0.574
15	At my job, I am very resilient, mentally (VI5)	−0.037	0.233	0.526
11	I am immersed in my work (AB4*)	0.367	0.010	0.423
13	To me, my job is challenging (DE5)	0.275	−0.047	0.308
Total % of variance explained		36.7	3.8	2.9
Cumulative % of variance explained		36.7	40.6	43.5

DE, dedication; AB, absorption; VI, vigor, higher loading in each factor is denoted by bold; SN, serial number indicating the original order of the UWES. *Shortened version (Utrecht Work Engagement Scale-9 [UWES-9]).

Table 2. Factor loadings for the 9-item Nepalese version of the UWES (UWES-N-9) by exploratory factor analysis with the principal axis factoring method and promax rotation (N=438)

SN	Item	Factors	
		1	2
11	I am immersed in my work (AB4)	0.777	−0.046
10	I am proud of the work that I do (DE4)	0.758	0.015
9	I feel happy when I am working intensely (AB3)	0.747	−0.089
14	I get carried away when I'm working (AB5)	0.734	−0.103
7	My job inspires me (DE3)	0.610	0.120
5	I am enthusiastic about my job (DE2)	0.509	0.319
8	When I get up in the morning, I feel like going to work (VI3)	0.400	0.369
4	At my job, I feel strong and vigorous (VI2)	−0.014	0.815
1	At my work, I feel bursting with energy (VI1)	−0.105	0.600
Total % of variance explained		43.3	5.9
Cumulative % of variance explained		43.4	49.2

DE, dedication; AB, absorption; VI, vigor, higher loading in each factor is denoted by bold; SN, serial number indicating the original order of the UWES.

The 9-item version with the three-factor structure fitted the data better than the 17-item three-factor structure. In addition, all items of the 9-item version had loadings >0.4 (Fig. 1), though the loading was

somewhat low (0.47) for VI1, i.e., “At my work, I feel bursting with energy”. Therefore, the three-factor model of the 9-item version was used for further analysis.

Table 3. Results of confirmatory factor analysis: comparison of goodness-of-fit indices among one-factor, two-factor and three-factor models in the short and long versions of the Nepalese version of the Utrecht Work Engagement Scale (UWES-N) (N=438)

Model	GFI	AGFI	PGFI	TLI	AIC	CFI	RMSEA	Chi-square	df	p
UWES-N-17										
1-factor ^{a)}	0.88	0.85	0.69	0.86	510.67	0.88	0.07	442.67	119	0.00
3-factor^{c)}	0.89	0.86	0.68	0.87	471.54	0.89	0.07	397.54	116	0.00
UWES-N-9										
1-factor ^{a)}	0.92	0.88	0.55	0.89	180.45	0.92	0.10	144.45	27	0.00
2-factor ^{b)}	0.94	0.90	0.54	0.91	154.93	0.93	0.08	116.93	26	0.00
3-factor^{c)}	0.95	0.91	0.51	0.93	132.11	0.95	0.07	90.11	24	0.00

GFI, Goodness of Fit Index; AGFI, Adjusted Goodness of Fit Index; PGFI, Parsimony Goodness of Fit Index; TLI, Tucker Lewis Index; AIC, Akaike Information Criterion; CFI, Confirmatory Fit Index; RMSEA, Root Mean Square Error of Approximation; df, degree of freedom, better fit models denoted by bold letters.

^{a)} All items measuring the three constructs loaded on one general work engagement factor. ^{b)} Dedication and absorption items loaded on the first factor and vigor items loaded on the second factor. ^{c)} Each item loaded on a hypothesized three-factor model.

Regarding the UWES-N-9, the Cronbach's alpha coefficients were 0.83, 0.60, 0.78 and 0.76 for the overall engagement, vigor, dedication and absorption subscales, respectively. The inter-item correlations were significant at $p < 0.001$ and ranged from 0.16 to 0.55, showing the homogeneity of the items. In addition, the correlation coefficient between each item score and a total scale or subscale ranged from 0.23 to 0.85. These correlations were also significant at $p < 0.001$. The Cronbach's alpha coefficients for the UWES-N-17 were 0.88, 0.73, 0.79 and 0.72 for the overall engagement, vigor, dedication and absorption subscale, respectively. The inter-item correlations for the UWES-N-17 were significant at the < 0.001 level and ranged from 0.16–0.57, indicating that the 17 items were homogeneous. In addition, the Cronbach's alpha coefficient for the absorption subscale of the long version was 0.75 after we replaced the original item with the revised item. The correlation between the original 17-item version and 9-item version was very high (0.95).

Relationship with other well-being variables

To investigate the construct validity of the UWES-N, the relationship with other indicators of well-being (job performance, job satisfaction, happiness, overall health and psychological distress) was tested using bivariate correlation analysis. The results showed that overall engagement was significantly negatively associated with psychological distress ($r = -0.35$, $p < 0.01$) but positively associated with overall health ($r = 0.24$, $p < 0.01$), job satisfaction ($r = 0.39$, $p < 0.01$), happiness ($r = 0.25$, $p < 0.01$) and job performance ($r = 0.38$, $p < 0.01$) (Table 4).

Fig. 1. Path diagram of the 9-item Nepalese version of the UWES (UWES-N-9), showing standardized coefficients from confirmatory factor analysis. VI, vigor; DE, dedication; AB, absorption.

Characteristics of the UWES-N across demographic subgroups

Table 5 reports the descriptive statistics of the UWES-N by demographic subgroups. Regarding age, a significant difference was found between groups in total score ($F = 10.89$, $p < 0.001$), vigor ($F = 11.87$, $p < 0.001$), dedication ($F = 7.87$, $p < 0.001$) and absorption ($F = 3.16$, $p < 0.05$). The post hoc Tukey's HSD test revealed that the higher age group (46–59 years) had significantly higher engagement compared with the 18–30 years and 31–45 years age groups ($p < 0.001$). In terms of position, groups differed significantly in overall engagement ($F = 12.21$, $p < 0.001$), vigor ($F = 15.01$, $p < 0.001$), dedication ($F = 7.61$, $p < 0.01$) and absorption ($F = 3.16$, $p < 0.05$). The level of overall engagement

Table 4. Correlation matrix for the 9-item Nepalese version of the UWES (UWES-N-9) and other validating variables (N=438)

	Correlations								
	Overall engagement	Vigor	Dedication	Absorption	Psychological distress	Overall health	Job satisfaction	Happiness	Job performance
Overall engagement	1								
Vigor	0.84	1							
Dedication	0.88	0.57	1						
Absorption	0.80	0.46	0.69	1					
Psychological distress	-0.35	-0.26	-0.38	-0.25	1				
Overall health	0.24	0.23	0.23	0.14	-0.31	1			
Job satisfaction	0.39	0.31	0.41	0.27	-0.33	0.31	1		
Happiness	0.25	0.21	0.27	0.15	-0.29	0.28	0.36	1	
Job performance	0.38	0.35	0.34	0.26	-0.35	0.31	0.22	0.27	1

All correlations are significant at the 0.01 level (2-tailed).

Table 5. Descriptive statistics, one-way ANOVA and multiple comparisons of the 9-item Nepalese version of the UWES (UWES-N-9) across demographic variables (N=438)

Demographic variables	Mean score (SD)			
	Overall engagement	Vigor	Dedication	Absorption
Age group (years)				
1) 18–30 (n=284)	4.81 (0.85) ***	4.06 (1.23) ***	5.06 (1.03) ***	5.32 (0.81) *
2) 31–45 (n=98)	4.75 (0.89)	4.02 (1.23)	4.96 (1.01)	5.26 (0.91)
3) 46–59 (n=56)	5.36 (0.81)	4.91 (1.24)	5.59 (0.77)	5.60 (0.69)
Post hoc test	1<3, 2<3	1<3, 2<3	1<3, 2<3	1<3, 2<3
Position				
1) General staff (n=368)	4.78 (0.90) ***	4.02 (1.27) ***	5.02 (1.06) **	5.30 (0.86) *
2) Ward in charge (n=46)	5.29 (0.58)	4.81 (0.99)	5.51 (0.57)	5.55 (0.54)
3) Supervisor (n=24)	5.41 (0.44)	5.04 (0.70)	5.58 (0.47)	5.61 (0.46)
Post hoc test	1<2, 1<3	1<2, 1<3	1<3, 2<3	1<2
Type of work				
1) Permanent (n=154)	5.04 (0.89) **	4.41 (1.27) *	5.25 (0.92) ns	5.46 (0.81) ns
2) Temporary (n=262)	4.77 (0.86)	4.02 (1.24)	5.01 (1.06)	5.29 (0.84)
3) Daily wages (n=22)	4.82 (0.81)	4.06 (1.19)	5.19 (0.90)	5.21 (0.73)
Post hoc test	1>2	1>2		
Work experience (years)				
1) 0.1–10 (n=307)	4.77 (0.86) ***	4.00 (1.24) ***	5.02 (1.04) **	5.29 (0.86) ns
2) 11–20 (n=66)	4.85 (0.88)	4.18 (1.22)	5.02 (1.01)	5.36 (0.76)
3) 21–30 (n=47)	5.36 (0.60)	4.84 (1.10)	5.63 (0.52)	5.61 (0.539)
4) 31–39 (n=18)	5.31 (4.87)	4.94 (1.41)	5.48 (1.15)	5.51 (0.99)
Post hoc test	1<3, 1<4, 2<3	1<3, 1<4, 2<3, 2<4	1<3, 2<3	

p* value <0.05; ** *p* value <0.01; * *p* value <0.001. SD, standard deviation; ns, nonsignificant. Only significant post hoc results are shown in the table.

was significantly higher for supervisors (5.41 ± 0.44 , $p=0.002$) and wards in charge (5.29 ± 0.58 , $p<0.001$) compared with general staff (4.78 ± 0.90). However, no significant differences were found between supervisors and wards in charge ($p=0.84$). Concerning work experience, the groups differed significantly in overall engagement ($F=8.01$, $p<0.001$), vigor ($F=8.85$,

$p<0.001$) and dedication ($F=5.93$, $p<0.01$); however, the same was not found for absorption. Regarding type of work, the groups differed significantly in overall engagement ($F=4.70$, $p<0.05$) and vigor ($F=4.72$, $p<0.01$) but not in dedication and absorption. Nurses with a permanent job showed a higher level of overall engagement (5.04 ± 0.89 , $p=0.007$) compared with

nurses with a temporary job. The level of overall engagement was high among nurses with 21–30 years (5.36 ± 0.60 , $p < 0.001$) and 31–39 years (5.31 ± 1.01 , $p = 0.04$) of experience compared with the group with one month to 10 years of work experience. Similarly, nurses with 21–30 years of experience showed a significantly higher level of overall engagement compared with nurses with 10–20 years of experience (4.85 ± 0.88 , $p = 0.01$). The results revealed no significant difference between nurses with 21–30 years and 31–39 years of experience.

Discussion

The current study examined the psychometric properties of the UWES in the Nepalese context in a sample of hospital nurses. Specifically, we examined the factorial validity, construct validity and internal consistency of the UWES-N.

To obtain the factor structure that best represents the UWES, exploratory factor analysis was used. The three factor solution for the 17-item version could not be interpreted meaningfully (Table 1), suggesting that participants in this study could not differentiate items in each dimension. This also might be the result of having many items measuring similar concepts. The 9-item version showed a two-factor structure (Table 2), with dedication and absorption factors merged into one factor. These results are in contrast with the basic theory³⁾, which assumes high correlation between vigor and absorption, suggesting that full immersion in one's activities is associated with high levels of energy and vice versa. The concept of work engagement is a new concept in Nepal; therefore, it clearly requires further research in this area taking into consideration different occupational group and both genders.

Although we found different factor structures using the EFA, we considered the concept of work engagement and employed the hypothesized three-factor solution when performing CFA to compare our study findings with other international studies. For the 17-item version, we compared the hypothesized three-factor model with the one-factor model. CFA revealed that the three-factor model fitted data better compared with the one-factor model. For the 9-item version, we compared the hypothesized three-factor model with the two-factor model (result from EFA) and one-factor model. Among the three models (one-factor, two-factor and three-factor models), the three-factor model had the best model fit. Furthermore, when comparing the 17-item and 9-item versions, the 9-item version with the three-factor model displayed the best model fit with the lowest chi-square statistic and AIC and the highest CFI and TLI. These findings are consistent with the findings of previous

validation studies in which the three-factor UWES-9 exhibited stronger psychometric properties than the UWES-17^{9, 12, 22)}. However, these findings are inconsistent with a study conducted in Japan¹¹⁾, which reported that one-factor model was the best fitting model. However, high correlation among the three dimensions (vigor, dedication and absorption) supports the possibility of a one-dimensional nature.

Furthermore, the internal consistency of the 9-item three-factor UWES-N was sufficient according to the guidelines of Nummally and Bernstein²³⁾, except for vigor (0.60). The alpha coefficient of 0.83 for the one-factor model was considerably higher. These results suggest that the 9-item UWES-N version is a reliable scale of work engagement in the Nepalese context. In addition, removing any of the items did not increase the alpha level, which underlines the importance of including all items in the scale. However, the low correlation (0.29 and 0.23) of the item “At my work, I feel bursting with energy” (V11) with the dedication and absorption subscales needs to be considered when using it in the Nepalese context.

Consistent with our expectation, work engagement was negatively associated with psychological distress and positively associated with health, job satisfaction, happiness and job performance. These findings are consistent with previous studies^{5, 6, 8, 11)} that provided support for the construct validity of the UWES-N. However, because of the cross-sectional design of the current study, we cannot infer the causal direction of the relationships. Future research could design a longitudinal study to elucidate potential causal relationships.

When exploring demographic characteristics, older workers reported a significantly higher level of engagement. This is consistent with prior studies¹²⁾ in which work engagement was positively (though weakly) associated with age. Regarding position, supervisors and wards in charge showed higher levels of work engagement compared with general staff. This result is also consistent with a previous study¹²⁾. In that study, educators, managers and police officers showed high levels of engagement, which was in contrast with a study conducted in China¹⁰⁾ in which support staff were more engaged compared with professional staff. At this moment, we do not have interventional evidence suggesting that educational methods or lifestyle habits would increase work engagement level. However, an empirical study²⁴⁾ showed that higher occupational groups, like managers, have higher levels of engagement and share positive experiences with team members. Therefore, we believe that although the general staff in our study had low engagement levels, the higher engagement levels of supervisors and wards in charge may help

increase the engagement level of their subordinate nurses. Similarly, permanent workers and workers with higher work experience showed higher engagement. Generally, permanent workers have higher salaries, more career opportunities and greater job security compared with temporary workers. Moreover, longer work experience might be associated with task identity. The abovementioned characteristics (high salary, career opportunity, job security, task identity and significance) are related to job resources at work²⁵. According to the Job Demands-Resources model, higher job resources are related to higher work engagement. Thus, our results are consistent with the Job Demands-Resources model²⁵. However, a previous study²⁶ found that salary and benefits were not the primary drivers of work engagement among nurses. This relationship needs to be investigated further. We can also hypothesize that higher engagement is related to higher salary in terms of reward. Although we lack information regarding salary in our sample, we recommend measuring the association of salary with the level work engagement in future studies.

Finally, limitations of this study needs to be addressed. Despite multisite recruitment and the high response rate of the study participants, the study sample came from a specific occupational field of female hospital nurses. Thus, the current study's results may not be generalized to other occupations. Future studies should examine the UWES-N among workers in different and perhaps male-dominated occupations.

Conclusions

In conclusion, this study confirmed that the 9-item version of the UWES-N has satisfactory psychometric properties and provided supportive evidence for its use in the Nepalese context. We hope that validation of the UWES-N is the first step to introducing the concept of work engagement in Nepal. It will not only promote a better understanding of work engagement in the Nepalese context but also inspire further researchers to explore different perspectives of work engagement and compare them with international studies.

Conflicts of interest: None declared.

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