Macrothink Institute™

Journal of Public Administration and Governance
ISSN 2161-7104
2022, Vol. 12, No. 4S

Validation of Work-Life Balance Instrument for Technical and Vocational Education Teachers

Putri Asnorsalbiah Ahmad

Faculty of Educational Studies, Universiti Putra Malaysia,

Serdang, 43400, Selangor, Malaysia

Normala Ismail

Faculty of Educational Studies, Universiti Putra Malaysia,

Serdang, 43400, Selangor, Malaysia

Siti Salina Mustakim

Faculty of Educational Studies, Universiti Putra Malaysia,

Serdang, 43400, Selangor, Malaysia

Seyedali Ahrari

Faculty of Educational Studies, Universiti Putra Malaysia,

Serdang, 43400, Selangor, Malaysia

Received: Oct. 20, 2022 Accepted: Dec. 6, 2022 Online published: Dec. 18, 2022

doi:10.5296/jpag.v12i4S.20573 URL: https://doi.org/10.5296/jpag.v12i4S.20573

Abstract

In terms of job scope and workload, being a Technical and Vocational Education (TVE) teacher is more challenging than other teachers. Therefore, this study aims to gain empirical data on the validity of the Work-Life Balance (WLB) Instrument for TVE teachers. An online survey was conducted in secondary schools in two federal territories of Malaysia which is Kuala Lumpur and Putrajaya (N=210). Data was collected using the Tailored Design Method with five contacts. The overall response rate was 61.4% (n = 129). The instrument is a 5-Likert-scale survey consisted 14 items. Factor analysis and Cronbach's alpha were used to

evaluate the WLB Instrument for TVE instructors' reliability and validity using the SPSS software version 26. The instrument's two factors, which together accounted for 68.2% of the total variance, were demonstrated by the results. For reliability, the first factor had a coefficient of .940 and the second factor had a coefficient of .397. The findings suggested a more in-depth study in determining the factors of the WLB specifically for TVE teachers.

Keywords: validity, reliability, factor analysis, work-life balance, technical and vocational education training teachers

1. Introduction

Researchers have recently become interested in WLB difficulties as a result of many societal developments involving the nature of responsibilities according to gender. Typically, males are the breadwinners while women are the housewife (Wood & Eagly, 2012). Women academicians hold dual roles namely as a mother and a career women will struggle to balance their work and life (Abdullah et al., 2021). Vice versa, Niharika and Supriya (2010) found that both men and women face the WLB issue. Ten Brummelhuis and Van Der Lippe (2010) have proved support from the organization from the aspect of WLB improving employee work behavior and performance. An organizational culture that emphasizes long and erratic working hours reduces the amount of time, or at least their ‘quality time with life after work (Powell et al., 2018). Shafie et al., (2014) ascertained technical and vocational education teachers spend more time other than the suggested time to work as they are not provided with a workshop assistant like the sciences teachers. Moreover, the sophistication of technology and the internet deprive folks of the time they need to work from anywhere at any time (Adisa et al., 2016; Currie & Eveline, 2011; Nam, 2014). Nam (2014) found that the use of technology shapes individuals ’perceptions of the flexibility and feasibility of WLB.

Work and life are the two primary domains that the notion of WLB considers. Looking at the instruments, most of the instruments aimed at measuring WLB are limited, consisting of only four or six items. Sorensen and McKim (2014) built the WLB Ability instrument. The instrument had a 5 -point Likert scale and had only four items. Next, the Work-Family Balance Scale instrument developed by Carlson et al. (2000), scaled a 5-point Likert scale and had six items. Whereas, the WLB Measure (Brough et al., 2014) has four items and a 5-point Likert scale. This study combines all of these items in one instrument so that the items are more numerous. Thus, this study aims to validate WLB instruments based on maximum likelihood factor analysis procedures.

2. Literature Review

The WLB is often synonymous with the work-family conflict (WFC) and WLB phrases. The phrases carried different meanings. According to Kahn, (1992), Mizanur (2019), and Nomaguchi (2009), WFC is when there is a contradiction between the work domain and the family domain. WFC and WLB are related to each other inversely. When there is no WFC, an individual achieves WLB. (Greenhaus et al., 2003). Furthermore, a person with a good WLB would excel in their profession (Adisa et al., 2016). Lockwood, (2003) stated that the work-family balance is the old term for the WLB. By evaluating life quality, employment

flexibility, and life balance, the WLB provided broader perspectives (Lockwood, 2003). Thus, WLB is defined as an individual's level of involvement and fulfillment with their role in work and life (Greenhaus et al., 2003).

The results of Sorensen and McKim's (2014) study to ascertain the connection between WLB, job satisfaction, and teacher commitment are shown in Figure 1. The findings have successfully proven a positive relationship between job satisfaction, WLB, and teacher commitment. When WLB standards are imposed, teacher commitment increases, and even teachers feel satisfied while working (Sri Harini et al., 2019). WLB was also found to positively affect work commitment (Akter et al., 2019; Arif & Farooqi, 2014).

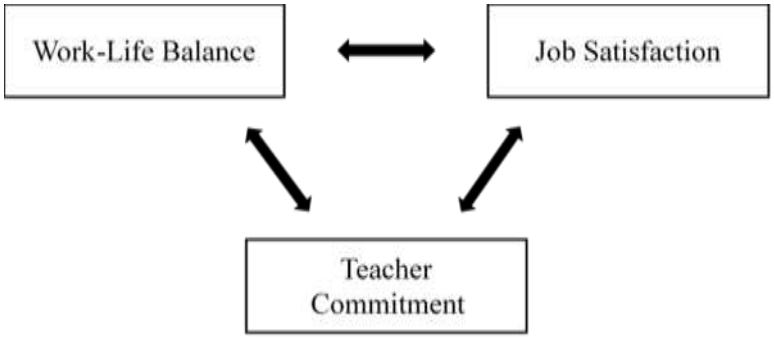

Figure 1. The relationship between WLB, job satisfaction, and teacher commitment

There is, in theory, a thin line separating business from personal life. The Work-Family Border Hypothesis is the main theory for this investigation (Clark, 2000). The theory states that individuals manage and negotiate their work and family lives, and the boundaries between them to accomplish stability. This hypothesis clearly explains the separation and integration of the two domains (Nam, 2014). Individuals who frequently move between the work and family domains are termed border crossers. The term ‘Boundary’ is used to limit the rate of convertibility between work and life (Bulger et al., 2007; Toyin Ajibade et al., 2018). The strength of boundaries constructed by an individual describes the resilience of WLB (Clark, 2000).

3. Methodology

This study uses a cross-sectional survey methodology with a quantitative and descriptive design. Teachers of Technical and Vocational Education (TVE) at primary schools in Kuala Lumpur and Putrajaya, federal territory, make up the study's population (N = 210). However, only 129 TVE teachers responded to the online questionnaire via Google Form, resulted 61.4% response rate.

3.1 Instruments

The questionnaire's items were modified from earlier research by Brough et al. (2014), Carlson et al. (2000), and Sorensen and McKim (2014). Thus, the WLB Instrument for Technical and Vocational contains 14 Likert-style items. Table 1 summarised the instruments adapted and modified in this study. All items were in the form of a five-point Likert-type

scale with 1 = strongly disagree to 5 = strongly agree.

Table 1. The list of instruments

Instruments	Item(s)	Developer/Year
WLB Ability	4	Sorensen et al. (2014)
WLB Scale	6	Carlson et al., 2000)
WLB Measure	4	Brough et al., (2014)

3.1.1 Validity

A certified team of experts assessed the instruments before the data collection to determine their face and content validity. Three local institutions with a focus on TVE research are represented on the panels by academics. The researcher gave the panels a specified form to follow. The panelists made a few recommendations, like adding more things and separating the work-related from the life-related elements. In the end, the instrument was validated by all panels.

3.1.2 Reliability

An instrument reliability pilot study was carried out following clearance from the University Putra Malaysia's Ethics Committee for Research Involving Human Subjects. 30 TVE teachers participated in a pilot study of the questionnaire. Reliability coefficients were at $\alpha = .901$. According to Hair et al. (2010), factor analysis may only be performed if the Cronbach Alpha values are more than.70.

3.2 Data Collection

The data collection process is a method–guided by the Tailored Design Method proposed by Dillman et al. (2014). The data were collected in February 2022. On the 4th of February, an email consisting of the QR code and URL link to assess the questionnaire was sent via email to the school's official email addresses. After a week, on the 11th of February, 33 respondents answered. Next, the second email was sent as a reminder to the non-responding school. This message reassured participation in the study. For the final resort, an official letter that included the QR code was sent through POS Malaysia. The closing date for the survey was set one week after the letter was delivered which was on the 15th of March. A final response rate of 61.4 % (n = 129) was achieved.

Results showed that 35 (27.1%) of the responding TVE teachers were male, and 94 (72.9%) were female. The age of the teachers ranged from 26 to 55 years, with an average age of 37.81 years and a standard deviation of 7.026. For marital status, the majority of teachers are married 101 (78.3%), 20 (15.5%) are single and a small number (6.2%) of teachers were divorced. The data analysis revealed the average years of teaching experience is 11.26 years with a standard deviation, of 7.058 (Table 2).

Table 2. Demographic Data of Technical and Vocational Education Teachers (n =129)

Characteristics	n	%	M	SD
Age			37.84	7.026
Gender				
Male	35	27.1		
Female	94	72.9		
Marital Status				
Single	20	15.5		
Married	101	78.3		
Divorced	8	6.2		
Years of experience			11.26	7.058
Level of Education				
Diploma	1	.8		
Bachelor	118	91.5		
Master	10	7.8		
PhD	-	-		

Note. n = Sample Size ,% = Percentages, M = Mean, SD = Standard Deviation

3.3 Data Analysis

The data were analyzed using the Statistical Package for the Social Sciences version 26.0. For demographic factors, we analyzed the data with frequencies, percentages, mean and standard deviations. At the same time, the factor analysis was used to identify factors underlying WLB for TVE Teachers. The reliability was measured using Cronbach's Alpha.

4. Findings

The first step for the factor analysis is to determine the number of factors for WLB by looking at eigenvalues and scree plots. The eigenvalues are set to be 1 as the eigenvalues are greater than 1 are considered significant (Hair et al., 2010). Two components met the criterion. The first, $\lambda 1 = 8.134$, accounted for 58.1%, and the second $\lambda 2 = 1.410$, accounted for 10.1% of variance.

Secondly, the sampling adequacy test by checking the Kaiser Meyer Olkin (KMO) values and Bartlett test. Hair et al. (2010), Pallant (2016); and Tabachnick and Fidell (2019) recommended that if the Kaiser-Meyer-Olkin (KMO) is larger than 0.6 and Bartlett's Test of Sphericity (BTS) must be significant at .05, the correlation matrix is assumed to be factorable. The sample size was large enough to assess the factor structure, according to the KMO measure of sampling adequacy, which generated a value of .960. Bartlett's test of sphericity, a measure of the strength of association between variables, supported the use of factor analysis. The results were determined to be significant ($\chi^2 = 1343.086$, $p < .001$). The KMO values and Bartlett test show that the sample size is sufficient and the strength between variables is supported for factor analysis. According to (Hair et al., 2010; Pallant, 2016) recommended the value of KMO is greater than 0.5 and the Bartlett test is significant.

Next, we used the maximum likelihood method of extraction with Oblimin nonorthogonal. Oblique/Oblimin rotation was utilized to correlate the factors (Ismail & Miller, 2021). The results of the pattern matrix, which contains the factor loading, were provided. In this study, only 13 items were reported with the lowest factor loading cut-off point.35 of the 12 items were loaded on the first factor, while one was loaded on the second. Refer to Table 3.

While, Table 4 shows the variance present by the factor, with a cumulative percent for both factors of 66.0%. The first factor accounted for 55.2% of the variance and the second factor accounted for 10.8% of the variance. The reliability was calculated using Cronbach's alpha. Factor 1 had a coefficient of .94 and Factor 2 had a coefficient of .40. The factor correlation matrix showed the inter-correlations between rotated factors in Table 5. Factor 1 and Factor 2 (r = .462) had moderate strength correlation (Cohen, 1988).

Table 3. Rotated factor Loadings for WLB of TVE teachers

No.	Items	Component	
		1	2
1	I can utilize techniques and skills to stay organized.	.755	
2	I can manage time effectively.	.729	
3	I can negotiate and accomplish my work-life expectation	.731	
4	I can fulfill the self-expectation in my work life.	.763	
5	I can balance work and life priorities.	.844	
6	I can manage work-related stress.	.701	
7	Overall, I believe that my work and life are balanced.	.825	
8	I can balance time spent between work and life activities.	.798	
9	I can fulfill the expectations of my supervisors and my family.	.790	
10	My co-worker and family members would say that I have met their expectations.	.667	
11	My co-workers and family members would say that I have met their expectations in both work and life.	.713	
12	People who are close to me would say that I do a good job of balancing work and family.	.676	
13	I have difficulty balancing work-life activities.		.357

Table 4. Percent of Variance Explained by factors

Factors	% of variance	Cumulative %
1	55.2	55.2
2	10.8	66.0

Table 5. Rotated Factors Inter-correlation

Variables	1	2
1	-	4.62
2	.462	-

Note. Maximum Likelihood was used for the extraction, and Oblimin with Kaiser was used

for rotation.

5. Discussion and Conclusion

The purpose of this study is to gain empirical data on the validity of the WLB for Technical and Vocational (TVE) teachers. For validity, the result of factor analysis identified two factors that underlie the WLB of TVE teachers. Result of the maximum likelihood factor analysis, there are two factors represented in the WLB. 12 items are represented for the first factor and 1 item for the second factor. The name suggestion for the first factor is self-ability to WLB, and the second factor is external perspective. This is because most of the items representing the first factor are involving items related to a person's ability to achieve WLB. Next, the second factor is related to the difficulty in balancing work-life activities.

Plus, the study supported the Work-Family Border Theory by Clark (2000). The theory emphasizes individuals act as a border-crosser between two domains which are the work domain and the family domain. The other major components stated in this theory are Border Area, Border Crosser, and Border Keeper. Self-ability to achieve WLB is referring to the role of border crosser and border keeper. Border crosser individuals often perform the process of transition through border areas between domains. While the border keeper is an influential individual with a border crosser such as family members at home and supervisor at the workplace. Thus, this study and the factor explained are supported the previous theory.

6. Recommendations

Future researchers are encouraged to use more items when conducting factor analysis using this method. In this study, no items were deleted. This study has demonstrated that two factors represent WLB. This study has been conducted on technical and vocational teachers in Malaysia. It is recommended, future studies should focus on these two factors in explaining WLB among teachers in other areas.

7. Limitations

Although assessing the WLB instrument's validity on Malaysian teacher samples is a notable strength of this study, it is yet unclear whether the findings apply to other teacher groups from different countries. The degree to which WLB results predict other metrics of interest in TVE teacher populations requires more study.

References

Adisa, T. A., Gbadamosi, G., & Osabutey, E. L. C. (2016). Work-family balance: A case analysis of coping strategies adopted by Nigerian and British working mothers. *Gender in Management*, *31*(7), 414–433. https://doi.org/10.1108/GM-01-2016-0010

Akter, A., Awal Hossen, M., & Islam, M. N. (2019). Impact of Work Life Balance on Organizational Commitment of University Teachers: Evidence from Jashore University of Science and Technology. *International Journal of Scientific Research and Management*, *7*(04). https://doi.org/10.18535/ijsrm/v7i4.em01

Arif, B., & Farooqi, Y. A. (2014). Impact of Work Life Balance on Job Satisfaction and

Organizational Commitment Among University Teachers: A Case Study of University of Gujrat, Pakistan. *International Journal of Multidisciplinary Sciences and Engineering*, *5*(9), 24–29. http://www.ijmse.org/Volume5/Issue9/paper5.pdf

Brough, P., Timms, C., Driscoll, M. P. O., Siu, O., Sit, C., & Lo, D. (2014). *The International Journal of Human Work – life balance : a longitudinal evaluation of a new measure across Australia and New Zealand workers*. *October*, 37–41. https://doi.org/10.1080/09585192.2014.899262

Bulger, C. A., Matthews, R. A., & Hoffman, M. E. (2007). Work and Personal Life Boundary Management: Boundary Strength, Work/Personal Life Balance, and the Segmentation-Integration Continuum. *Journal of Occupational Health Psychology*, *12*(4), 365–375. https://doi.org/10.1037/1076-8998.12.4.365

Carlson, D. S., Kacmar, K. M., & Williams, L. J. (2000). Construction and Initial Validation of a Multidimensional Measure of Work-Family Conflict. *Journal of Vocational Behavior*, *56*(2), 249–276. https://doi.org/10.1006/jvbe.1999.1713

Clark, S. C. (2000). *Work?Family Border Theory: A New Theory of Work/Family Balance*. https://doi.org/10.1177/0018726700536001

Currie, J., & Eveline, J. (2011). E-technology and work/life balance for academics with young children. *Higher Education*, *62*(4), 533–550. https://doi.org/10.1007/s10734-010-9404-9

Dillman, D. A., Smyth, J. D., & Leah Melani, C. (2014). *Internet, Phone, Mail, and Mixed-Mode Surveys: The Tailored Design Method* (Fourth Edi). John Willey & Sons, Inc.

Greenhaus, J. H., Collins, K. M., & Shaw, J. D. (2003). The relation between work-family balance and quality of life. *Journal of Vocational Behavior*, *63*(3), 510–531. https://doi.org/10.1016/S0001-8791(02)00042-8

Hair, J., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7th Editio). Pearson Prentice Hall.

Ismail, N., & Miller, G. (2021). Factors that Motivate High School Agriculture Teachers to Teach. *Journal of Agricultural Education*, *62*(1), 331–346. https://doi.org/10.5032/jae.2021.01331

Jacob., C. (1988). *Statistical Power Analysis for the Behavioral Sciences* (2nd ed). Erlbaum Associates.

Kahn, W. A. (1992). To Be Fully There: Psychological Presence at Work. *Human Relations*, *45*(4), 321–349. https://doi.org/10.1177/001872679204500402

Lockwood, N. R. (2003). *Work/Life Balance*.

Mohammad Mizanur, R. (2019). *Effect of Work-Family Conflict, Work-Family Balance and Support on Well-Being of Private University Academicians*. Universiti Putra Malaysia.

Nam, T. (2014). Technology Use and work. *Applied Research in Quality of Life*, *9*(4), 1017–1040. https://doi.org/10.1007/s11482-013-9283-1

Nazli Hulwany Abdullah, Noraida Ismail, & Norhazimah Ismail. (2021). A Study of the Work-Life Balance among the Female Academics at Polytechnics. *Civilizational Studies and Human Sciences BITARA International Journal of Civilizational Studies and Human Sciences*, *4*(1), 130–145.

Niharika, D., & Supriya, M. (2010). Gender differences in the perception of Work Life Balance. *International Research Journal*, *4*(Winter), 331–342.

Nomaguchi, K. M. (2009). Change in work-family conflict among employed parents between 1977 and 1997. *Journal of Marriage and Family*, *71*(1), 15–32. https://doi.org/10.1111/j.1741-3737.2008.00577.x

Pallant, J. (2016). *SPSS Survival Manual, 6th edition, 2016*. Open University Press.

Powell, G. N., Greenhaus, J. H., Jaskiewicz, P., Combs, J. G., Balkin, D. B., & Shanine, K. K. (2018). Family science and the work-family interface: An interview with Gary Powell and Jeffrey Greenhaus. *Human Resource Management Review*, *28*(1), 98–102. https://doi.org/10.1016/j.hrmr.2017.05.009

Sharifah Shafie, Suhaida Abdul Kadir, & Soaib Asimiran. (2014). Workload of Technical Secondary School Teachers: Management and Administration's Perception. *Malaysian Online Journal Educational Management (MOJEM)*, *2*(4), 38–49.

Sorensen, T. J., & McKim, A. J. (2014). Perceived Work-Life Balance Ability, Job Satisfaction, and Professional Commitment among Agriculture Teachers. *Journal of Agricultural Education*, *55*(4), 116–132. https://doi.org/10.5032/jae.2014.04116

Sri, H., Luddin, M. R., & Hamidah. (2019). Work Life Balance, Job Satisfaction, Work Engagement and Organizational Commitment Among Lecturers. *Journal of Engineering and Applied Sciences, 14*(7), 2195–2202.

Tabachnick, B. G., & Fidell, L. S. (2019). *Using Multivariate Statistics* (Seventh ed). Pearson.

Ten Brummelhuis, L. L., & Van Der Lippe, T. (2010). Effective Work-Life Balance Support for Various Household Structures. *Human Resource Management*, *49*(2), 173–193. https://doi.org/10.1002/hrm

Toyin Ajibade, A., Gbolahan, G., & Ellis L.C, O. (2018). *What happened to the border? The role of Mobile Information Devices on Employee's Work-Life Balance*. *34*(1), 1–5.

Wood, W., & Eagly, A. H. (2012). Biosocial Construction of Sex Differences and Similarities in Behavior. In *Advances in Experimental Social Psychology* (1st ed., Vol. 46). Elsevier Inc. https://doi.org/10.1016/B978-0-12-394281-4.00002-7