INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN BUSINESS & SOCIAL SCIENCES

Vol 14, Issue 10, (2024) E-ISSN: 2222-6990

Validating Measures of Work Engagement and Innovative Work Behaviour in Malaysian Educators: An Exploratory Factor Analysis

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To Link this Article: http://dx.doi.org/10.6007/IJARBSS/v14-i10/22777 DOI:10.6007/IJARBSS/v14-i10/22777

Published Date: 02 October 2024

Abstract

This study aimed to develop and validate instruments for measuring work engagement (WE) and innovative work behaviour (IWB) among Malaysian educators. Using a sample of 123 educators from Melaka, Malaysia, we conducted an exploratory factor analysis on a 44-item questionnaire adapted from established measures. The results confirmed the validity and reliability of the instruments, with factor loadings exceeding 0.5 and Cronbach's alpha values above 0.9 for both constructs. The study provides researchers and policymakers with validated tools to assess educator engagement and innovation in the Malaysian context, contributing to the understanding of these crucial factors in educational transformation. Future research should examine the relationship between these constructs and educational outcomes.

Keywords: Exploratory Factor Analysis, Innovative Work Behaviour, Work Engagement, Educators.

Introduction

Educational systems around the world have been experiencing changes and reforms in many aspects (Amzat et al., 2021). This has also occurred in the field of teachers' professional development, which has been changing rapidly and frequently worldwide (Nababan, Purba and Siburian, 2020). Education, as a social institution, serves the needs of society to survive and prosper. It must not only be thorough, sustainable, and outstanding but also continuously adapt to meet the demands of a constantly evolving and unpredictable globalised world. As a result, educators must innovate teaching and learning methodologies and techniques, as well as all other aspects of this dynamic institution, to ensure that all students are prepared for life and work (Arshad et al., 2018). Thus, educators who are passionately engaged with their work typically exhibit high levels of energy and dedication, show resilience in the face of

obstacles, and actively cultivate a culture of innovation to help Malaysia achieve a world-class education system.

To support Malaysia in becoming a developed country with innovative-minded citizens, the government's main mission is to develop a world-class education system as stated by the Ministry of Education Malaysia (MOE) in the introduction of the Malaysian Education Blueprint (MEB) 2013-2025. This plan has sparked a transformation in the education landscape. The MEB emphasises the need to shift from traditional teaching approaches to more dynamic and interactive methods that cultivate critical thinking and creativity.

Hence, these changes have necessitated that educators be innovative for the success of world-class education reform (Hosseini & Haghighi Shirazi, 2021; Malaysia, 2012) as educators play the most crucial role in the education system. In education, innovation can take various forms, such as new pedagogical theories, methodological concepts, teaching strategies, tools, learning processes, or institutional frameworks. The implementation of these innovations results in significant enhancements in both teaching and learning, ultimately leading to improved educational outcomes for students (Umamah et al., 2021).

However, the necessity for educational innovations is heavily dependent on how educators implement them. Numerous innovations in education fail to generate the expected changes (Lambriex-Schmitz et al., 2020b). Educators are less engaged in their work because workloads and burdens remain unaddressed despite education transformation in Malaysia (Mokhtar et al., 2021). Innovations require educators to adopt new behaviours, but often, even after an extended period, educators abandon these innovative behaviours and return to comfortable routines (Izati et al., 2023). As a result, the job burden on educators has increased like never before, and there is a considerable risk of growing stress levels and burnout (Suganya and Sankareshwari, 2020). This condition affects teachers' performance such as a lack of energy or motivation, reduced creativity, disengagement, or a focus on merely getting through the day-to-day demands of their job. In fact, many educators struggle to generate innovative ideas and effectively integrate creativity and innovation into their pedagogy (Ibrahim et al., 2024).

In relation to educators' innovative work behaviour, there are discussions in the academia concerning the work engagement of teachers. Work engagement is referred to as a psychological state that includes a physical-energetic component (vigour), an emotional component (dedication), and a cognitive component (absorption) (Schaufeli et al., 2004). Meanwhile, for this study, innovative work behaviour is defined as an educator's actions related to generating, promoting, and implementing innovative concepts in schools in order to improve innovative performance (Lambriex-Schmitz et al., 2020a).

Hence, it is always desirable to understand the relationship between work engagement and its influence on innovative work behaviour. For example, work engagement is correlated with high levels of innovation, positive work outcomes such as profitable results, positive organisational behaviour, and excellent customer service (Bakker and Albrecht, 2018; Li et al., 2019; Ibrahim et al., 2023). An engaged employee is willing to go above and beyond their responsibilities. The new landscape in the education sector requires educators who are

actively involved to ensure that the overall development of new teaching methods, the implementation of new technologies, and the creation of new curricular materials can be achieved (González-Salamanca, Agudelo, and Salinas, 2020; Al-Awidi and Al-Furaih, 2023).

Although perceptions of work engagement are central to educators' capability to teach well, it is surprising that to date this topic has received so little research attention and has remained largely unexplored empirically (Ibrahim et al., 2023; Kaur et al., 2022). In fact, only a limited number of variables have been explored as determinants of innovative work behaviour in the previous literature (Salam and Senin, 2022; Farrukh et al., 2023). This includes how educators develop their capacity to be creative and innovative in teaching, which is rather scarce (Anderson et al., 2021; Johari, Wahat, and Zaremohzzabieh, 2021).

As a result, educators often lack the necessary skills and knowledge to incorporate creative and innovative teaching methods in their classrooms (Hasin and Nasir, 2021). Malaysian teachers often focus on teaching to the test and rote memorisation, which can stifle creativity and innovation in the classroom (Viswanadham, B. L. and Chowdhury, 2021). On the other hand, the concept of innovative work behaviour has been the subject of extensive investigation among researchers, revealing diverse dimensions and determinants identified by various authors (Gemeda and Lee, 2020; Kwon and Kim, 2020; Afsar et al., 2021). However, although numerous studies have suggested distinctive IWB dimensions, they frequently fail to assess the validity and provide inadequate evidence on construct validity (De Jong & Den Hartog, 2010; Lambriex et al., 2020a; Messmann & Mulder, 2020). These existing instruments lead to inconsistencies in findings and limitations in accurately capturing the various dimensions of innovative work behaviour particularly among educators in Malaysia (Ibrahim et al., 2024; Dixit & Upadhyay, 2021).

Despite the importance of educator engagement and innovation, limited research has examined these constructs in the Malaysian context using validated measures. Thus, the main purpose of this study is to identify appropriate items to be used in the instrument. Specifically, this research intends to create a valid and reliable instrument to measure Work Engagement (WE) and Innovative Work Behaviour (IWB) through Exploratory Factor Analysis (EFA), as it addresses a gap in the literature by providing empirical evidence on generating items for measuring educators' work engagement and innovative work behaviours which have been largely unexplored in Malaysia. This research was conducted in public schools in Melaka, targeting school educators to provide reliable information.

Literature Review

Innovative Work Behaviour

Innovative work behaviour can be described as a process in which new ideas are created, developed, promoted, and realised within a work role, work group, or organisation that benefits work performance (Farrukh et al., 2023). Notably, a growing body of literature has demonstrated that the concept of innovative work behaviour refers to idea generation, idea promotion, and the realisation of innovative ideas (Viswanadham & Chowdhury, 2021; Lambriex-Schmitz et al., 2020a). According to prior research, innovative work behaviours among educators in schools are essential to remain abreast of society's rapid changes and developments in Malaysia (Johari et al., 2021; Izzati et al., 2023).

In the educational context, idea generation among educators involves the reorganisation and combination of existing concepts and information to improve work performance or solve problems (Al-Awidi & Al-Furaih, 2023) Idea promotion is defined as efforts to promote ideas and seek support from fellow colleagues in schools. Idea realisation refers to developing and implementing innovative ideas related to teaching tasks (González-Salamanca et al., 2020; Afsar et al., 2021). Despite these studies showing the significance of innovative work behaviour as a multi-stage behavioural process in educational institutions, there is a lack of established and validated instruments developed to detail innovative work behaviour specifically among educators in Malaysian educational institutions (Johari et al., 2021; Ibrahim et al., 2023).

Work Engagement

Schaufeli et al (2002), defined work engagement as a positive, fulfilling, work-related state of mind that is characterised by vigour, dedication, and absorption. These three components are described as the willingness of employees to invest high levels of energy and remain motivated even when faced with challenges (vigour), a sense of enthusiasm and significance towards work (dedication), and the difficulty employees experience in detaching themselves from work (absorption). The instrument consists of these three concepts—vigour, dedication, and absorption—which form the foundation of the 17-item work engagement questionnaire (UWES-17).

Further, according to Bakker and Demerouti (2008), the JD-R model suggests that job resources and personal resources promote work engagement, leading to positive outcomes such as creative and innovative behaviour (Kwon and Kim, 2020; Dixit and Upadhyay, 2021). Hence, this research follows the work engagement components (vigour, dedication, and absorption) as a single variable, as discussed by Schaufeli and Bakker (2004) within the JD-R model. Therefore, it is indicated that there are seventeen items (UWES-17) used to measure educators' work engagement.

In numerous studies conducted in different countries, UWES-17 scores have been found to significantly correlate with innovative work behaviours and the discretionary effort put into work performance (Gemeda and Lee, 2020; Kwon and Kim, 2020). Despite the widespread use of UWES-17, Wilmer et al (2019), have argued that the instrument has flaws in relation to the development of its factorial structure as the three concepts—vigour, dedication, and absorption— overlap and are not theoretically distinct. Similarly, Zhang et al. (2020) concluded that no definitive recommendation could be made due to inconclusive results on the optimal factor structure for the work engagement instrument and suggested that future research should focus on factor analysis in different samples.

Relationship between Work Engagement and Innovative Work Behaviour

Work engagement is one of the factors contributing to innovative work behaviours. Innovative work behaviors arise not solely from an individual's inherent qualities but also from their job attitudes (Kwon and Kim, 2020), as they channel energy, dedication, and absorption (Schaufeli et al., 2002). Engaged educators are able to invest their personal resources and energies into their work performance. This self-investment, passion, and energy of engaged educators lead to innovation (Jason and Geetha, 2021). Hence, work engagement gives employees the motivation to face difficult conditions while remaining

focused and dedicated. Without this personal competence, employees may have difficulty engaging in their work and attaining their objectives, potentially causing stress and impeding their ability to develop and implement new ideas.

Methodology

This research adopted a quantitative research design. The respondents were selected through purposive sampling. The unit of analysis for this study includes educators from schools in Melaka. The questionnaires were distributed to the selected schools that participated in STEM (Science, Technology, Engineering and Maths) innovative educational transformation pilot project at Universiti Teknikal Malaysia Melaka. The data collection process began in February 2022, and concluded in April 2022 and took about three months in order to complete this survey. Data were gathered in a cross-sectional study with prior consent from the teachers. For the pilot survey, sample size is a vital issue especially in factor analysis. A rule of thumb says that at least 100 samples or more are required for factor analysis (Awang et al., 2023; J. Hair et al., 2021). Therefore, a total of 150 questionnaires were distributed, 132 were returned and 123 questionnaires which yielded a response rate of 82%, were fully completed by the respondents. Thus, this sample size meets the minimum requirement for factor analysis, as suggested by Hair et al (2021), who recommend at least 100 samples. The study excluded 18 educators because their surveys were incomplete. The data from 123 respondents were then used to improve the measures by assessing their reliability, which was analysed using IBM SPSS 29.0 software.

Instruments

Both variables in this study were assessed using a 5-point Likert scale, with responses ranging from "(1) strongly disagree" to "(5) strongly agree". The rationale for adopting a 5-point scale appears be less confusing, increases the response rate, and is most appropriate given that this study is a survey study (Bouranta et al., 2009). Moreover, this research used the Likert scale from 1 to 5 to maintain consistent and compare the findings, as the questionnaire adapted from previous research also used a 5-point Likert scale. In prior studies, 44 validated measurement items were adapted. For instance, the measurement instrument for IWB items was adapted and modified from Lambriex-Schmitz et al. (2020a), while items for work engagement (UWES-17) were adapted from Schaufeli et al. (2006). The participants were also asked to provide demographic characteristics such as age, gender, ethnicity, education level, and the type of school.

Pilot Respondents Comments on the Survey Questionnaire

Respondents to the pilot survey provided suggestions for improving and clarifying the questionnaire. The respondents supported maintaining both languages (Malay and English) in the questionnaire, arguing that this approach would make it clearer for respondents from different ethnic backgrounds. Secondly, respondents suggested proofreading the dual-language content to ensure the meaning is conveyed correctly and accurately. Additionally, respondents agreed with the questionnaire format and the use of both languages (Malay and English) in the survey. Furthermore, school teachers assessed the face validity, while experts examined the content validity and provided their feedback.

Result

Respondent Profile

Table 1
Socio-Demographic Characteristics of the Respondents

No	Demographic Characteristics	Educators (N=123)	
		Total	%
1.	**Gender**		
	Male	37	30.1
	Female	86	69.9
2.	**Age**		
	21-30	26	21.1
	31-40	34	27.6
	41-50	43	35.0
	>50	20	16.3
3.	**Ethnic**		
	Malay	90	73.2
	Chinese	17	13.8
	Indian	16	13.0
4.	**Educational Qualifications**		
	Diploma	5	4.1
	Bachelor's degree	104	84.6
	Master's degree	14	11.4
5.	**Schools**		
	Primary	55	44.7
	Secondary	88	55.3
6.	**Adoption Category**		
	Innovators	20	16.3
	Early Adopters	43	35
	Early Majority	29	23.6
	Late Majority	30	24.4
	Laggards	1	0.8

In regard to gender, 30.1% of the participants were male, while 69.9% were female. Of the participants, 73.2% were Malay, 13.8% were Chinese, and 13% were Indian, with no other groups represented. In terms of education level, 4.1% of respondents held a Diploma, 84.6% held a Bachelor's degree, and 11.4% held a Master's degree. The majority of the respondents were aged 41-50 years (35%), followed by 27.6% aged 31-40 years, and 21.1% aged21-30 years. A minor proportion of respondents were aged 50 and older (16.3%). The respondents also came from various school categories, with 55.3% working in secondary schools and 44.7% in primary schools.

To gain a better understanding of educators' innovative work behaviour, questions were asked regarding the five established innovation adoption categories in the Diffusion of Innovation (DOI) Theory, developed by E.M. Rogers in 1962. 16.3% of educators were classified as innovators. Innovative teachers are very willing to take risks and are often the first to develop new ideas among professional workers in the government (Çakıroğlu et al.,

2022). The majority of teachers are early adopters, with 35% fitting this category, as they favour leadership positions and embrace new opportunities (Porter & Graham, 2016). Meanwhile, 24.4% of teachers identified themselves as part of the late majority. Late majority teachers are resistant to change and will only adopt an innovation after most others have tried it. 23.6% of teachers were classified as part of the early majority because they adopt new ideas before the average person (Porter & Graham, 2016; Frei-Landau et al., 2022). Finally, only one respondent believed they belonged to the laggards category. Laggards are sceptical of change and highlyconservative (Rogers, 2003).

Exploratory Factor Analysis

The EFA was conducted on all constructs to assess the applicability of items that had been modified from prior studies, as this study made certain changes to the instruments adapted from earlier research to meet its specific requirements. The pilot study results were determined by exploratory factor analysis, based on the findings from two tests: the Kaiser-Meyer-Olkin (KMO) and Bartlett's test of sphericity. These tests confirmed that all assumptions identified in the survey were statistically significant. The KMO values for all constructs exceeded 0.5, and Bartlett's test of sphericity indicated significance ($p<0.001$), confirming adequate sampling adequacy for factor analysis, as reported by Williams et al. (2010). Table 2 displays the results of the KMO and Bartlett's tests of sphericity for innovative work behaviour and work engagement.

Table 2
KMO and Bartlett's Test of Sphericity

Construct	KMO (>0.50)	Bartlett's Test of Sphericity (<0.001)
Innovative Work Behaviour	0.919	0.000
Work Engagement	0.940	0.000

Figure 1 shows a Scree plot with two components that emerged through EFA. The 27 items divided into each component were identified using EFA techniques (Awang et al., 2023). Meanwhile, Table 2 shows that the total variance explained for innovative work behaviour is 62.249%. This level of overall variance explained is acceptable, as it exceeds the 60% threshold (J. F. Hair et al., 2018). The 27 items were extracted using the "Principal Component Analysis (PCA) extraction method with Varimax rotation". The factor loading required for an item to be retained should exceed 0.5, ideally reaching 0.7 or higher (J. F. Hair et al., 2018). All factor loadings for the rotated items in IWB surpass 0.5.

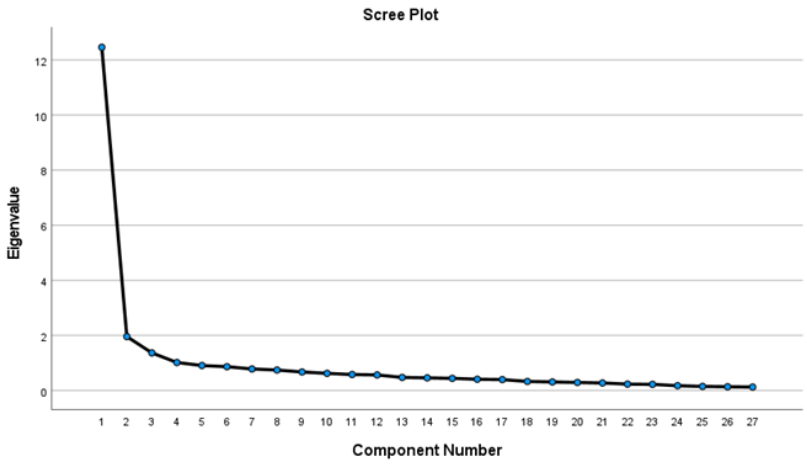

Figure 1: The Scree Plot of Innovative Work Behaviour

As noted by Williams et al (2010), interpreting a scree plot depends on the researcher's judgement. If the scree plot is messy and difficult to interpret, additional data extraction may be necessary. As illustrated in Figure 2, the scree plot clearly shows the emergence of two components found in one construct, thereby confirming the Eigenvalues' results.

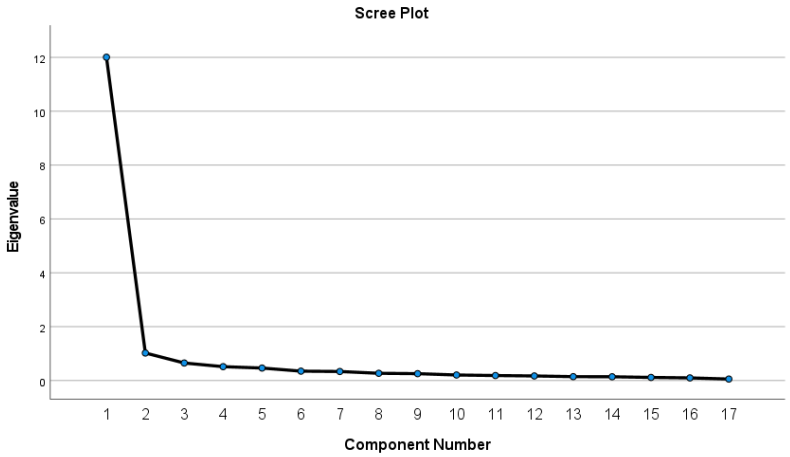

Figure 2: The Scree Plot of Work Engagement

Table 3 presents the retained items for the two constructs, innovative work behaviour and work engagement. No items were removed from these constructs, as all items in both IWB and WE had factor loading values greater than 0.5. According to Awang et al. (2023) and J. F. Hair et al. (2018), factor loadings "equal to or above (≥ 0.50)" are considered practically significant. Additionally, the eigenvalue for the 27 items in IWB was 1.019, which surpassed the threshold value of 1 (J. F. Hair et al., 2018; Williams et al., 2010). Furthermore, all the items explained 62.24% of the total variance, exceeding the recommended value of 60%, as specified by (Hair et al., 2018; and Quinlan et al., 2015).

Table 3
Innovative Work Behaviour KMO and Bartlett's Test of Sphericity

No	Items	Factor Loading	Eigenvalue	Total Variance Explained
1	**Innovative Work Behaviour**		**1.019**	**62.24**
	DIG1 Expressing new ideas.	0.802		
	DIG 2Creating innovative ideas for challenging problems.	0.671		
	DIG 3 Seeking for innovative working methods, techniques, or instruments.	0.663		
	DIG 4 Creating unique solutions.	0.755		
	DIG 5 Asking critical questions	0.522		
	DIG 6 Suggesting new ideas to solve problems.	0.740		
	DIG 7 Discussing the latest ICT idea implementation.	0.517		
	DIG 8 Exchanging ideas on concrete changes.	0.685		
	DIG 9 Specifying which elementary improvements.	0.612		
	DIP 10 Convincing others of the value of novel ideas or solutions.	0.576		
	DIP 11 Increasing support for new ideas.	0.623		
	DIP 12 Obtaining clearance for new ideas.	0.730		
	DIP 13 Making key organisational members passionate about creative ideas.	0.758		
	DIP 14 Promoting and championimg ideas to others.	0.703		
	DIP 15 Suggesting new ideas to important personnel who have the authority to allocate resources for these new ideas.	0.723		

	DIP 16 Promoting the implementation of new solutions regarding ICT in the teaching context.	0.669		
	DIP 17 Explaining to others how new ideas can be put into practice step-by-step.	0.740		
	DIR 18 When putting ideas into practice, I examine the solution development.	0.767		
	DIR 19 Transforming innovative ideas.	0.686		
	DIR 20 Introducing fresh ideas into the workplace.	0.641		
	DIR 21 Assessing the usefulness of new ideas.	0.624		
	DIR 22 I create comprehensive strategies and timetables for implementing new ICT innovation ideas.	0.608		
	DIR 23 I am an innovative person.	0.613		
	DIR 24 Testing ways to overcome unexpected challenges while putting ideas into action.	0.547		
	DIR 25 Keeping track of progress as ideas are implemented.	0.781		
	DIR 26 Keeping coworkers informed of the idea's progress as it is implemented.	0.790		
	DIR 27 Developing operational strategies for similar scenarios in the future.	0.523		

On the other hand, Table 4 shows that seventeen items from the elicitation study were included to assess work engagement. Principal Component Analysis (PCA) with Varimax rotation was applied to these seventeen items. As shown in Table 6, the eigenvalue for all the items was 1.024, which surpassed the recommended threshold of '1 and above' (J. F. Hair et al., 2018; Ramayah et al., 2017). The total variance explained for this construct is 76.65%. This level of variance explained is satisfactory because it exceeds the minimum of 60% (J. F. Hair et al., 2018).

Table 4
Work Engagement KMO and Bartlett's Test of Sphericity

No	Items	Factor Loading	Eigenvalue	Total Variance Explained
2	**Work Engagement**		**1.024**	**76.65**
	WVG1 At work, I experience a surge of energy.	0.642		
	WVG2 At work, I feel robust and vigorous.	0.731		
	WVG3 I can work for an extended period of time.	0.815		
	WVG4 I get up and want to go to work.	0.827		
	WVG5 At work, I am highly psychologically resilient.	0.833		
	WVG6 I constantly persevere at work, even when things don't go as planned.	0.814		
	WDD7 When I am working, I forget about other matters.	0.746		
	WDD8 My work motivates me.	0.617		
	WDD9 I believe that the job I do is meaningful and purposeful.	0.647		
	WDD10 I'm proud of the job that I do.	0.615		
	WDD11 My job presents a challenge to me.	0.712		
	WAB12 When I am working, time seems to fly by.	0.746		
	WAB13 When I work with passion, I am happy.	0.696		
	WAB14 At work, I am highly psychologically resilient.	0.783		
	WAB15 I am entirely involved in my work.	0.804		
	WAB16 I tend to get carried away while working.	0.808		

	WAB17 It is tough to separate myself from the work I undertake.	0.848		

The Instrument Internal Reliability

The instrument's internal reliability was analysed to ensure the absence of random error and bias (Bougie & Sekaran, 2020). Tabachnick and Fidell (2013) used Cronbach's alpha (α) to assess the reliability of the scales at the initial survey phase. This indicated that the instrument was subject to random errors and biases. Thus, Cronbach's alpha was used to examine the internal consistency of innovative work behaviour and work engagement. This approach was employed as it is one of the most extensively used methods to measure reliability. A threshold value of "0.7 or higher" indicates satisfactory internal consistency reliability (Awang et al., 2023; Bougie & Sekaran, 2020; J. F. Hair et al., 2018). Table 4 shows that the IWB and WE variables were reliable, with Cronbach's alpha (α) values exceeding the "threshold of 0.7".

Table 4
The Internal Reliability of the Construct

Construct	No of Items	Cronbach's Alpha
Innovative Work Behaviour (IWB)	27	0.952
Work Engagement (WE)	17	0.974

Work Engagement (WE) had the highest reliability score of 0.974, followed by Innovative Work Behaviour (IWB) with a score of 0.952. Table 3 also shows that no items were eliminated from these two constructs because the factor loadings for all items in each construct was acceptable, as stated in Table 4. Thus, the construct reliability of these two variables has been confirmed.

Discussion

The systematic approach used in this study to develop measurement scale items follows the guidelines outlined by Saunders et al. (2020) for measuring latent variables. These developed measurement scale items help ensure that research findings can be generalised (Quinlan et al., 2015). Crucially, the aim of this study was to establish a set of valid and reliable scale items, with the following processes involved:

Initially, the researcher undertook an extensive literature review during the conceptualisation of the constructs. The review of the literature also identified that the educators' innovative work behaviour construct comprises twenty-seven (27) items (Lambriex-Schmitz et al., 2020a), while the work engagement construct includes seventeen (17) items (Schaufeli et al., 2006). A total of forty-four (44) items were identified to measure the two (2) constructs.

Secondly, content and face validity were assessed in this study, which involved primary and secondary school educators. Furthermore, two experts—a Senior Lecturer and an Associate Professor—were consulted. These experts evaluated whether the measurement scales adequately represented the intended constructs and whether the scale items effectively measured the constructs of interest (Bougie & Sekaran, 2020).

Finally, the final version of the instrument was assessed during the pilot study. During the purification step, scale reliability was evaluated using coefficient alpha (α), item-to-total correlation, and exploratory factor analysis (EFA). The results indicate that the two (2) constructs and forty-four (44) items accurately represented work engagement and innovative work behaviour among educators as demonstrated by the EFA and scale reliability.

Therefore, this study fills the gap identified by Johari et al (2021), Ibrahim et al (2023), and Wilmer et al. (2019). It affirms that the validated instrument in this research is stable and consistent across samples and can be used in future research to measure work engagement and innovative work behaviour in relation to Malaysian educational institutions, specifically among educators.

Conclusion

This study successfully validated measures of work engagement and innovative work behaviour among Malaysian educators. The 27-item IWB scale and the 17-item WE scale demonstrated strong psychometric properties, including high internal consistency and clear factor structures. These validated instruments provide valuable tools for researchers and educational policymakers to assess and promote educator engagement and innovation in Malaysia. Future research should explore the relationship between these constructs and important educational outcomes, such as student achievement and teacher retention. Additionally, cross-cultural comparisons using these measures could enhance our understanding of educator engagement and innovation across different educational contexts. By providing reliable and valid measurement tools, this study contributes to the ongoing efforts to foster innovation and engagement in Malaysia's education system, ultimately supporting the nation's goal of developing world-class, innovative-minded citizens.

Contribution

This study adds significant theoretical and contextual value to the field of education by validating techniques for measuring work engagement (WE) and innovative work behaviour (IWB) among Malaysian educators. Theoretically, it contributes to the literature by including the Job Demand-Resources (JD-R) Theory, which holds that job resources (work engagement) resulting in good outcomes such as innovativeness (Bakker & Demerouti, 2008). By demonstrating the validity of WE and IWB instruments, this study fills a gap in measuring these dimensions, particularly in educational institutions in Malaysia. Contextually, this study is relevant since it aligns with the goals of Malaysia's Education Blueprint (2013-2025), emphasising educators' role in fostering innovativeness to improve educational outcome.

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