ORIGINAL ARTICLE

Malay Happiness at Workplace Index: Psychometric Properties Study

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ABSTRAK

Kajian ini bertujuan untuk mengesahkan Indeks Kebahagiaan Melayu di Tempat Kerja (M-HAW). Kajian tinjauan keratan rentas dengan kaedah persampelan kemudahan telah dijalankan di Pusat Perubatan Universiti Kebangsaan Malaysia (PPUKM), Malaysia. Pendekatan ke hadapan ke belakang digunakan untuk menterjemah 11 item asal soalan dan diedarkan kepada responden. Untuk menilai kesahan dan kebolehpercayaan, analisis statistik dilakukan menggunakan Analisis Faktor Penerokaan (EFA) dan Analisis Faktor Pengesahan (CFA). Sejumlah 501 individu sihat telah dimasukkan dalam kajian dengan 72% responden perempuan dan purata umur ialah 37.63 ± 7.60. Soal selidik secara amnya diterima dengan baik oleh peserta, dan piawaian kebolehpercayaan telah dipenuhi (Cronbach α = 0.95). EFA menunjukkan 2 faktor berbeza iaitu faktor individu dan faktor persekitaran. CFA menunjukkan bahawa model itu sesuai (RMSEA= 0.076, CFI= 0.978, x^2/df= 3.31). M-HAW telah menunjukkan kesahihannya sebagai alat yang baik untuk mengesan kebahagiaan dalam keadaan tempat kerja. Kebahagiaan di tempat kerja versi Bahasa Melayu boleh digunakan sebagai alat saringan untuk mengukur kebahagiaan yang dapat membantu organisasi menyediakan intervensi yang sesuai untuk meningkatkan kebahagiaan pekerja.

Katakunci: kegembiraan di tempat kerja, skala, validasi

ABSTRACT

The present study aimed to validate the Malay Happiness at Workplace (M-HAW) index questionnaire. A cross-sectional survey study with a convenience sampling method was carried out at Universiti Kebangsaan Malaysia Medical Centre (UKMMC), Malaysia. The forward-backward approach was used to translate the original 11 items of the M-HAW questionnaires, which were then distributed to

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respondents. Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were utilised to assess the questionnaires' validity and reliability. A total of 501 healthy individuals were included in the study, with 72% female respondents and a mean age of 37.63 $\pm$ 7.60. The questionnaire was generally well-received by participants, and reliability standards were met (Cronbach's α = 0.95). The EFA shows two distinct factors, namely individual and environmental factors. The CFA shows that the model was fit (RMSEA= 0.076, CFI= 0.978, x^2/df= 3.31). The M-HAW demonstrated its validity as a good tool for determining happiness in the workplace. The M-HAW questionnaire can be used as a screening tool to measure happiness, and should be able to help an organisation provide suitable interventions to improve employee happiness.

Keyword: happiness at work, scale, validation

INTRODUCTION

Happiness is an important human emotion that governs human action, and is often considered synonymous with subjective well-being (Diener et al. 1993; Sheldon & Lyubomirsky 2004; Singh & Aggarwal 2018). Happiness consists of the experience of frequent positive emotions such as joy and contentment, with a sense that one's life is good, meaningful and worthwhile, with negative emotions such as sadness, anxiety and anger occurring infrequently (Lyubomirsky et al. 2005). Steptoe (2019) details emotion happiness as encompassing the three domains of affective well-being (feelings), eudemonic well-being (feeling of enjoyment of joy and pleasure) and psychological well-being (life satisfaction). Studies have shown a correlation between happiness with good support from friends (Jun & Jo 2016), reduced mortality and progression of the illness (Steptoe 2019). Happiness at work represents

an issue of great importance, because most human beings work out of both necessity and desire (Baumeister & Leary 1995; Fisher 2010). It has been discovered that increased career success, earnings, job performance and assisting others at work are all related to levels of happiness at work (Boehm & Lyubomirsky 2008). Feeling enjoyment at work, being able to handle setbacks, having amiable colleagues and knowing the worth of your work to yourself and your organisation are all associated with happiness at work (Simon-Thomas 2018). The greater independence and autonomy self-employed people experience can be directly linked to their higher job satisfaction and happiness (Benz & Frey 2004). Furthermore, evidence has shown that happiness at work influences an employee's willingness and ability to produce at higher levels (Boehm & Lyubomirsky 2008; Pryce-Jones & Lindsay 2014; Rodríguez-Muñoz & Sanz-Vergel 2013).

Happiness itself cannot be measured

directly; hence, there are constructs or dimensions that can be measured and represent happiness at work. According to Fisher (2010), happiness constructs exist at three levels, which are the transient level, person level and unit level. Person level and unit level are more stable and long lasting compared to transient level. Examples of happiness constructs or dimensions used in previous studies included job satisfaction, individual commitment, organisational commitment, work engagement, work involvement, intrinsic motivation, drive and value, work affection and resilience (Geldenhuys et al. 2014). During this review, several instruments were found that had been used to assess happiness at work, based on the construct proposed by Fisher (2010). A multidimensional measure of happiness at work was developed by Singh & Aggarwal (2018) and tested among professionals in India. The scale showed good psychometric properties and happiness measurement based on four domains; flow and intrinsic motivation, supportive organisational experiences, unsupportive organisational experiences and work repulsive feelings (Singh & Aggarwal 2018). Similarly, another novel scale was known as the job design happiness scale was developed and had shown good psychometric properties (Dutschke et al. 2019). Work Design Questionnaire (WDQ), a newly designed measurement of happiness at work, focuses on work characteristics. This scale has shown high convergent and discriminant validity, as well as dependability

(Morgeson & Humphrey 2006). Older measurements such as Utrecht Work Enthusiasm Scale emphasised work engagement, which is associated with happiness (Balducci et al. 2010). Compared to other questionnaires, the Utrecht Work Enthusiasm Scale has been more widely used due to good psychometric proprieties (Petrović et al. 2017; Seppälä et al. 2009). A 31-item scale was created by Salas-Vallina & Alegre (2021) to gauge satisfaction at work also showed good psychometric properties. Among the above-mentioned questionnaire, the 31 items of the Happiness at Work (HAW) index scale have been translated into the Indonesian language. It was found that their psychometric properties were similar to the original (Fitriana et al. 2022; Rastogi 2019). The Malay Happiness at Workplace (M-HAW) index was developed by Del Junco et al. in 2013 and found to be valid and reliable, with Cronbach's $\alpha = 0.88$ (Del Junco et al. 2013; Ramirez-Garcia et al. 2019). Compared to other scales, this scale assesses both internal factors, namely worker factors, and external factors, including job environment factors such as organisational climate. Existing instruments mostly assess either job satisfaction or organisational factors which contribute to happiness at the workplace or the workers' subjective well-being. The majority of these questionnaires are developed in Western norms and culture. It is questionable whether these instruments can be used in other populations, cultures and ethnicities. Furthermore, to our knowledge, there is no published legitimate HAW index

for the Malaysian population. The majority of HAW scales have been created for the professional level and are less focused on the academic level (Singh & Aggarwal 2018). Therefore, the purpose of this study was to translate, adapt and use the M-HAW as a measure of both academic and non-academic employee HAW (Ramirez-Garcia et al. 2019). Validating the HAW questionnaire will help employers in Malaysia to measure their workers' HAW from a managerial perspective.

MATERIALS AND METHODS

Study Design and Procedures

This was a cross-sectional survey study using a convenience sampling method. An invitation and description e-mail containing the URL link to the online questionnaire form was sent to Universiti Kebangsaan Malaysia Medical Centre (UKMMC) staffs. The sample population included the 5000 clinical and non-clinical staff members of the UKMMC. The sample size was determined using a 1 item to 10 respondent ratio for an estimation of 280 respondents (Meyers et al. 2016). The inclusion criteria required respondents to be aged 18 or above, be able to read and write in English or Malay, and be cooperative. Respondents who did not want to participate were excluded. This study was approved by the Human Research Ethics Committee of Universiti Kebangsaan Malaysia (Ethics Committee/IRB Ref No: UKM PPI/111/8/JEP-2020-771)

Translation

The translation of the M-HAW index used the forward-backward method (Bullinger et al. 1998; Meadows 2003). Firstly, the English version was translated into the Malay language by two psychology students and evaluated by an expert to determine the similarities and differences between the two translated versions and finalised with one version of translation. The Malay version was later translated back into the English language (back translation) by two other psychology students and was verified by the expert in content and language validation before the pilot study (Kaiser et al. 2019).

Face and Content Validity

The M-HAW was distributed to 43 respondents who were workers in the general population. The process of face and content validity for the questionnaire, which tapped into culture, was carried out through discussions among these 43 respondents. It was also given to 10 other people to determine whether the questionnaire could be understood and to rate the questions' reliability based on how they perceived it (Nevo 1985). We found that based on factor analysis, four items did not correlate with the others and had a low factor loading and were thus omitted from the final validation (Boateng et al. 2018; Haynes et al. 1995). The result of the Kaiser-Meyer-Olkin (KMO) test was 0.862 and Barlett's test was significant. The reliability result was Cronbach's α = 0.915.

Statistical Analysis

The data were analysed using IBM SPSS Statistic for Windows, version 25 (IBM, Armonk, NT, US). Descriptive statistical analyses were conducted on demographic data. Internal consistency reliability was analysed using Cronbach's α, while construct validity used exploratory factor analysis with varimax rotation to determine each item's factor loading (Yong & Pearce 2013). Confirmatory factor analysis was used to examine goodness-of-fit (Thompson 2004). Pearson correlation was used to analyse inter-item correlation (Benesty et al. 2009).

RESULTS

Descriptive Analysis

A total of 501 respondents completed the questionnaire. Table 1 showed the characteristics of the demographic data of the respondents. The mean age of the respondents was 37.63 ± 7.60. Almost half of the respondents' educational backgrounds were at the diploma level. The majority of the respondents did not report any medical or psychiatric problem.

Exploratory Factor Analysis (EFA)

The results for EFA uncovered two factors. The KMO value was 0.903 with Bartlett's Test of Sphericity, which was significant (p<0.001). Table 2 showed the result of the factor analysis. The first factor included item numbers 1, 2, 3, 4, 8 and 10. This factor represented the individual factors that contributed to HAW. The second factor consisted

Table 1: Sociodemographic data distribution

Characteristic	Mean (SD)	Total N (%)
Total		501
Sex		
Male		141 (28.1)
Female		360 (71.9)
Age	37.63 (7.60)	
Age group		
23-32		148 (29.6)
33-42		240 (48.0)
43+		112 (22.4)
Education background		
High School		90 (18.1)
Diploma		201 (40.4)
Bachelor's Degree		107 (21.5)
Masters		71 (14.3)
PhD		29 (5.8)
Medical problem		
No		410 (82.3)
Yes		88 (17.7)
Psychiatric problem		
No		486 (97.6)
Yes		12 (2.4)
Happiness at workplace index score category	58.75 (11.41)	
Happy		457 (91.2)
Unhappy		44 (8.8)

of item numbers 5, 6, 7, 9 and 11. This factor represented the environmental factors such as organisational climate, the task at work and rewards. All of the factor loadings were higher than the cut-off point of 0.40 (Yong & Pearce 2013).

Reliability

The reliability of the factors used in exploratory factor analysis was assessed. The total reliability for the 11-item was 0.94, whilst Cronbach's α for the first factor (individual factor) was 0.92 and the second factor (environmental factor) was 0.93. Factor

Table 2: Domain and internal consistency for each M-HAW items

	Items	Domains	ITC	Cronbach's α
M-HAW1	Saya menikmati kerja saya	Individual factor	0.78	0.92
M-HAW2	Saya mempunyai kestabilan dalaman		0.69	
M-HAW3	Saya berasa sihat secara objektif		0.68	
M-HAW4	Saya mempunyai kestabilan secara professional		0.70	
M-HAW8	Saya seronok menjalankan tugas saya dengan baik		0.78	
M-HAW10	Motivasi dalaman untuk pekerjaan saya tinggi		0.74	
M-HAW5	Di tempat kerja, saya mendapat ganjaran yang wajar	Environmental factor	0.72	0.93
M-HAW6	Suasana organisasi syarikat tersebut baik		**0.82**	
M-HAW7	Bos mengurus dengan baik		**0.79**	
M-HAW9	Suasana organisasi di dalam unit kerja saya adalah baik		**0.79**	
M-HAW11	Tugasan saya di syarikat dirancang dengan baik		**0.84**	

ITC = corrected item-total correlation. Significant value p<0.001

1 comprised 6 items reporting on a 5-point Likert scale that explained 41% of the variance, with factor loadings from 0.66 to 0.88. Factor 2 comprised 5 items reported on a 5-point Likert scale that explained 54% of the variance with factor loadings from 0.67 to 0.89. The corrected item-total correlation (ITC) for items within each subscale ranged from 0.68 to 0.84, as shown in Table

Table 3: Factor loading for each item

	Items	Factor 1	Factor 2
M-HAW1	Saya menikmati kerja saya	0.74	
M-HAW2	Saya mempunyai kestabilan dalaman	0.73	
M-HAW3	Saya berasa sihat secara objektif	0.88	
M-HAW4	Saya mempunyai kestabilan secara professional	0.88	
M-HAW8	Saya seronok menjalankan tugas saya dengan baik	0.69	
M-HAW10	Motivasi dalaman untuk pekerjaan saya tinggi	0.66	
M-HAW5	Di tempat kerja, saya mendapat ganjaran yang wajar		0.79
M-HAW6	Suasana organisasi syarikat tersebut baik		0.89
M-HAW7	Bos mengurus dengan baik		0.89
M-HAW9	Suasana organisasi di dalam unit kerja saya adalah baik		0.85
M-HAW11	Tugasan saya di syarikat dirancang dengan baik		0.67

3, indicating good internal consistency (Tavakol & Dennick 2011).

Convergent & Discriminant Validity

Both individual and environmental factors had good convergent validity, as the Average Variance Extracted (AVE) values were 0.699 and 0.779, respectively (Hair 2009) as shown in Table 4. The internal reliability for this measurement model was achieved, as the CR values were 0.921 for individual factors and 0.946 for environmental factors. The discriminant validity was assessed using the discriminant validity index (square roots of AVE) and correlation between the two constructs and should not exceed 0.85. The discriminant validity index for individual factor was 0.835 and for environmental factor was 0.881. The correlation between individual and environmental factors was 0.74.

Confirmatory Factor Analysis

Due to the poor overall fit of the design, a new model fit with added modification indices was tested (Hoyle 2012) (Figure 1). Item M-HAW 10 was removed due to a lower factor loading. This model fit was better than the initial model for both parsimonious fit indices (x^2/df = 3.308) and absolute fit indices [Root Mean Square Error of Approximation (RMSEA) = 0.076, Goodness of Fit Index (GFI) = 0.948] and relative fit indices [Normed Fit Index (NFI) = 0.970, Comparative Fit Index (CFI) = 0.978, Adjusted Goodness of Fit Index (AGFI) = 0.913] (Table 5). The correlation of the two factors showed almost the same results as the initial correlation, which was highly correlated (r = 0.74).

DISCUSSION

This study aimed to validate M-HAW index. The face validity was done in a pre-test study on 43 respondents as stated in the methodology section. The findings showed that 4 out of the 15 items had a factor loading lower than 0.4 and did not correlate with others.

Table 4: Convergent validity and internal reliability of this measurement model.

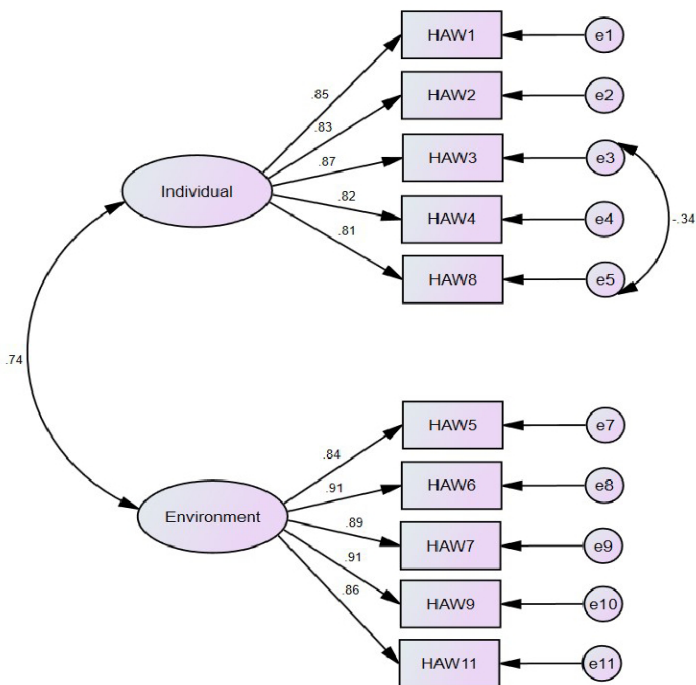| Factor	Item	Factor Loading	AVE	CR	Discriminant validity index
Individual	M-HAW 1	0.847	0.697	0.920	0.835
	M-HAW 2	0.828			
	M-HAW 3	0.865			
	M-HAW 4	0.819			
	M-HAW 8	0.815			
Environmental	M-HAW 5	0.840	0.775	0.945	0.881
	M-HAW 6	0.905			
	M-HAW 7	0.886			
	M-HAW 9	0.906			
	M-HAW 11	0.864			

Figure 1: Standardised parameter estimates for two-factor model fit

These were thus omitted for final validation (Howard 2016; Hu & Bentler 1999). The four items were "Keluarga membawa saya kebahagiaan", "Saya mempunyai kesihatan yang baik", "Dalam kehidupan saya, cinta memainkan peranan penting" and "Saya seorang ekstrovert". From a theoretical perspective, despite these four items including factors that were related to happiness, these items did not have a clear correlation with the dimension that was related in this study which was individual and environmental factors (Ramirez-Garcia et al. 2019). The four items were happiness construct but were not directly related to happiness at workplace. This finding corroborated previous findings (Ramirez-Garcia et al. 2019). The final validation of 11 items showed good reliability with Cronbach's α = 0.915. Hence, the final version of the 11-item M-HAW was suitable to be adapted to the Malaysian population.

Analysis of EFA showed that there were two domains which were similar to those of a previous study (Ramirez-Garcia et al. 2019). The items in each factor were also consistent with the previous study except for item 1 and

Table 5: Goodness-of-fit statistic for this model

				Measures of Fit				
x^2	df	x^2/df	p<	GFI	AGFI	RMSEA	NFI	CFI
109.167	33	3.308	0.000	0.948	0.913	0.076	0.970	0.978

item 10. In the previous study, items 1 and item 10 belonged to environmental factors. Based on the wording of both items in Malay, which are "Saya menikmati kerja saya" and "Motivasi dalaman untuk pekerjaan saya tinggi", these had been interpreted as individual factors. The factor loadings for each item in both dimensions were higher than the moderate value of 0.4. The KMO value was 0.903, with a significant Bartlett's Test of Sphericity indicating that it was good. The present study also showed that the M-HAW index has good internal consistency, with Cronbach's α values for individual factors of 0.92 and environmental factor of 0.93 (Tavakol & Dennick 2011)

The result for the initial CFA showed a poor overall fit of the design, but after adding modification indices to form a new design, the model fitted better. Item 10 was removed due to a lower factor loading. Based on previous studies, the level of acceptance for RMSEA was less than 0.08, and for GFI, NFI, CFI and AGFI, the value needed to be greater than 0.9 (Bentler 1990; Browne & Cudeck 1992; Jöreskog & Sörbom 1982; Tanaka & Huba 1985). This model had parsimonious fit indices of $x^2/df = 3.308$, absolute fit indices of RMSEA = 0.076, GFI = 0.948 and relative fit indices of NFI = 0.970, CFI = 0.978, and AGFI = 0.913, which indicated that this measurement model was a good fit, as all the fit indices were within an acceptable range.

Convergent validity was assessed using AVE. The AVE values were 0.699 (individual) and 0.779 (environmental). One study suggested that the value of AVE needed to be 0.5 or higher to achieve this validity (Awang et al. 2015) and another study by Fornell and Larcker (1981) also recommended AVE value greater than 0.5. Hence, this measurement model achieved convergent validity. The CR value was higher than the recommended value of greater than 0.7 (Hair 2009), thus this measurement model constructs achieved composite reliability. The discriminant validity index for individual factor (0.835) and environmental factor (0.881) and the correlation between both factors was 0.74, which did not exceed the limit value of 0.85 (Awang et al. 2015). Hence, discriminant validity was achieved.

CONCLUSION

In conclusion, the Malay version of M-HAW has good validity and reliability. This scale is suitable to be used in the general population to measure happiness in the workplace based on individual and environmental factors. The difference in population with a previous validation study showed that this instrument can be use in both corporate settings and also academic and hospital settings, as the results were similar. This will help organisations to detect employee unhappiness and provide suitable interventions to improve employees happiness.

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