

## Validity and Reliability of Malay Version Financial Well-Being Scale among Malaysian Employees

*(Kesahan dan Kebolehpercayaan Skala Kesejahteraan Kewangan Versi Bahasa Malaysia dalam Kalangan Pekerja Malaysia)*

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### ABSTRACT

*Financial well-being is perceived as one of the important parameters in measuring a person's socio-economic status as well as his or her financial situation. While many measures are developed in the West to assess the financial well-being of an individual, a valid and reliable Malay translated scale is still lacking to measure Malaysians' status of financial well-being. With that in mind, this study aimed to validate Financial Well-being Scale in Malay language (henceforth, FWS-M) among a sample of adult Malaysian employees. The present study commenced with Forward-Backward translations and subsequently subjected to various validation phases: face, content and construct validity. A total of 600 Malaysian employees aged 20 years and above were recruited for the purpose of construct and factorial validations using a random sampling method. The data was analysed using Exploratory Factor Analysis while Cronbach's Alpha method was employed to identify internal consistency of the scale. The inter-item correlation between items were also ascertained using a Pearson Correlation Coefficient method. The results showed FWS-M is a unidimensional scale with the factor loading ranged between 0.62 and 0.88. Meanwhile, the reliability analysis of this scale revealed a Cronbach's Alpha coefficient of 0.92, indicating promising internal consistency of the items. The inter-item correlation among items in FWS-M ranged between 0.37 and 0.79. FWS-M is concluded as a valid and reliable unidimensional instrument to assess financial well-being among Malaysians employees.*

*Keywords: Factor analysis; financial well-being scale; financial well-being; reliability; validity*

### ABSTRAK

*Kesejahteraan kewangan dilihat sebagai salah satu parameter penting dalam mengukur status sosio-ekonomi dan juga keadaan kewangan seseorang. Walaupun banyak ukuran dibangunkan di Barat untuk menilai kesejahteraan kewangan individu, namun skala terjemahan bahasa Melayu yang sah dan boleh dipercayai masih kurang untuk mengukur status kesejahteraan kewangan rakyat Malaysia. Sehubungan itu, kajian ini bertujuan untuk mengesahkan Skala Kesejahteraan Kewangan dalam bahasa Melayu (selepas ini, FWS-M) dalam kalangan sampel pekerja dewasa Malaysia. Kajian ini dimulakan dengan terjemahan ke hadapan dan ke belakang, dan seterusnya tertakluk kepada pelbagai fasa pengesahan: kesahan muka, kandungan dan konstruk. Seramai 600 pekerja Malaysia berumur 20 tahun dan ke atas telah direkrut untuk tujuan kesahan konstruk dan faktor dengan menggunakan teknik persampelan rawak. Data dianalisis dengan menggunakan Analisis Faktor Eksploratori, manakala kaedah Cronbach Alpha telah digunakan untuk mengenal pasti ketekalan dalaman skala. Korelasi inter-item juga dikenalpasti melalui metod Pearson Correlation Coefficient. Dapatan kajian menunjukkan FWS-M adalah skala unidimensional dengan faktor muatan adalah antara 0.62 dan 0.88. Sementara itu, analisis kebolehpercayaan skala ini menunjukkan pekali Cronbach Alpha sebanyak 0.92, menunjukkan ketekalan dalaman item yang baik. Nilai korelasi*

*inter-item dalam FWS-M berada di antara 0.37 hingga 0.79. Kesimpulannya, FWS-M adalah instrumen unidimensional yang sah dan boleh dipercayai untuk menilai kesejahteraan kewangan dalam kalangan rakyat Malaysia.*

*Kata kunci: Analisis faktor; skala kesejahteraan kewangan; kesejahteraan kewangan; kebolehppercayaan; kesahan*

## INTRODUCTION

Financial well-being is perceived as one of the important concepts in the field of finance and economics and it has been a favorite topic for many economists, financial counselors, planners, investment agents and also social scientists. In general, financial well-being can be conceptualized as “a state of being wherein a person can fully meet current and ongoing financial obligations, can feel secure in his or her financial future, and is able to make choices that allow enjoyment of life” (Consumer Financial Protection Bureau (2015: 8)). The concept of financial well-being can therefore be summarized as the ability to perform or make a wise decision with regard to earnings, savings as well as credits which ensure a person to accomplish his or her personal goals and lead a comfortable lifestyle.

Over the years, the ‘financial well-being’ term is often referred to and used in different ways such as perceived economic well-being (Walson & Fitzsimmons 1993), financial satisfaction (Joo & Grable 2004), and personal financial wellness (Joo & Garman 1998). In some instances, this term is used in opposite manner such as financial strain (Aldana & Liljenguist 1998), perceived income adequacy (Danes & Rettig 1993) and financial stress (Kim & Garman 2003). Although various terms were used across the years, all these terms reflect the concept of financial well-being and these terms are widely used in studies related to financial well-being.

Low level of financial well-being is always seen as a potential and significant predictor for many negative attributes such as low levels of well-being (Mirowsky & Ross 2003) and also affect mental and physical health of an individual (O’Neill et al. 2005). In addition, low level of financial well-being is also largely linked to negative health outcomes. A study by Kim, Sorhaindo, and Garman (2003) has documented that a higher level of financial well-being tend to promote a better health and lifestyle. Studies also reported that financial well-being of

an individual does affect the working performance of that individual. For example, a study by Joo and Garman (1998) showed employees with low level of financial well-being tend to be unproductive with frequent absenteeism. Unproductive employees may give a huge impact not only to that particular individual but to the entire organization. For instance, unproductive employees may not serve effectively to his or her organization which may in turn erode the productivity and quality of the organization. In addition, unproductive employees may exhibit a very minimal level of engagement and responsibility to the improvement of the organization.

The concept of financial well-being among employees is always seen as an important measure at organizational settings as it very much relates and predicts other aspects such as productivity, quality, organizational citizenship behaviour, health and well-being of employees. Studies on financial well-being and linking it to other constructs are considered very essential as it provides ground for intervention efforts and counseling. For example, financial counseling such as debt counseling, credit counseling and career counseling can be offered to those who are facing problems with financial well-being. On top of this, it is very imperative to have a valid and reliable tool first in measuring the concept of financial well-being of a test taker in order to proceed with other studies or intervention.

Over the years, different approaches such as subjective and objective measurements were used to assess the concept of financial well-being among test takers. Examples of subjective measurement include family financial management, consumption’s satisfactory level and household situations (Jeries & Allen 1986). In terms of objective measurements, parameters such as socio-demographic markers (Williams 1985) have been utilized. However, in recent years, the objective measurement of financial well-being has changed to a better approach by utilizing measurement scale which can provide a better, accurate and more

reliable measurement. For this, a number of scales were developed to measure the financial well-being status of an individual. Reflecting on this, Financial Well-being Scale (FWS) by Prawitz et al. (2006) is one of the widely used scales in assessing the perception of financial well-being of an individual. FWS or also known as the In Charge Financial Distress (IFDFW) is a self report measure which consists of eight items that measure financial well-being of an individual. It was understood that more than 180 practitioners and researchers from various fields such as business, finance, and counseling have used this scale for the purpose of assessment, intervention and researches (Personel Finance Employee Education Foundation 2010). Moreover, this FWS has been used in several programs such as Debt Management Program (O'Neil et al. 2006) and Workplace Financial Literacy Program (Holland, Goodman & Stich 2008). Over the years, there isn't any notable studies that have been conducted to validate FWS in other languages.

Although many settings and programmes benefited from having this FWS, there is no valid and reliable FWS in the Malay language that is available to be used by Malaysians. Although FWS is an established scale and has been used worldwide, it is necessary to validate it in Malay language in order to cater for the needs of the local population. Therefore, it is important to have a psychometrically validated FWS to measure Malaysians' financial well-being status. Diagnosing the financial well-being status of local population using validated FWS is imperative as practitioners, policy makers, employers, and counselors could come up with various strategies to improve financial well-being of an individual. Many corporate sectors as well as agencies such as Agensi Kaunseling & Pengurusan Kredit (AKPK) can benefit by having this Malay validated FWS as one of the standard tools to identify individuals who need financial counseling such as credit and debt counseling. Offering such counseling to the needy people will help them to ease their financial stress, assist financial management and also develop an action plan for living a financially healthy lifestyle and achieve the financial goals. Furthermore, a psychometrically validated FWS in Malay language could assist researchers from many disciplines to utilize it for the purpose of research. With this in mind, the present study aimed to translate and validate FWS in Malay language (henceforth, FWS-M).

## METHODS

### MEASURE

The questionnaire consisted of mainly two sections: socio-demography and Financial Well-Being Scale (FWS). FWS was developed by Prawitz et al. (2006) to measure the perception of financial well-being as well as the accompanying stress due to the financial status of the respondents. FWS is a brief scale which consists of only 8 items and each item was arranged as a continuum (extending from negative to positive feeling) in 10 point Likert scales which inquire the respondent's financial well-being. The higher scores indicate highest financial well-being or no financial distress and lower scores indicate lowest financial well-being or overwhelming financial distress. Basically, this scale measures two main aspects with four items measuring the current sense of financial well-being and the other four is about how one reacts to their present financial well-being. Examples of items that were designed to assess the current sense of financial well-being include: "What do you feel is the level of financial stress today?" (item 1) and "How satisfied are you with your present financial situation?" (item 2). Meanwhile, examples of items that asked the reaction towards present financial well-being are: "How frequently do you find yourself just getting by financially and living paycheck to paycheck?" (item 7) and "How stressed do you feel about your personal finances in general?" (Item 8).

In this scale, the higher scores represent a sense of positive feeling and hence, better financial well-being level. The internal consistency of the original scale was reported an excellent Cronbach's alpha value of 0.956 (Prawitz et al. 2006). In addition, Prawitz et al. (2006) also found that the factor loadings of eight items of FWS among a sample of 1097 adults ranged between 0.83 and 0.92, indicating strong factor loadings. Based on the factorial validation conducted by Prawitz et al. (2006), the eigenvalue was 0.63 and the proportion of variance was 0.79.

### VALIDATION PROTOCOLS

A thoroughly validated protocols were employed in this current study in order to produce a valid and reliable measure of the FWS-M. This validity study commenced with Forward-Backward translations

and followed by three other validation protocols i.e. content, face and construct validations. For the purpose of construct validation, Exploratory Factor Analysis using a varimax rotation method was used.

#### FORWARD-BACKWARD TRANSLATIONS

The Forward-Backward Translations was the first step employed in this study. A translation process as introduced by Brislin (1970) was utilized where the original FWS in English language was translated to Malay language and later, the Malay version FWS was back translated into English language. This translation technique is always perceived as the first attempt in any validation study in order to modify the scale into a local language. For this purpose, two bilinguals and an industrial and organizational psychologist were assigned to complete the forward translation for the period of one month. After a period of one month, researchers compared the forward translated scripts by the translators to resolve the ambiguity raised in the forward translation scripts such as inappropriate sentences and items with vague meanings. In addition, a qualified proof-reader was also hired to endorse the FWS-M. After minor amendments, the same procedure was repeated by a different group of panels for the purpose of backward translation. This group consisted of two different bilinguals and a psychologist. The selection of the backward translators was done carefully as one of the criteria of selection was 'no prior exposure'. In other words, the backward translators were chosen from those who were not exposed to the original version of FWS. Upon the comparison between the back translated version of FWS with original English version, the moderators found the translations were satisfactory.

#### CONTENT AND FACE VALIDATIONS

Following the Forward-Backward translations, the FWS-M was subjected to subjective form of validations namely, content and face validations. In general, content validation refers to an assessment whether the items in a particular scale measure the intended concept or domain (Mohammad Rahim et al. 2017). For this, three experts from the Graduate Business School and School of Psychology, Universiti Kebangsaan Malaysia with doctoral qualification were appointed to assess

the content validity of the FWS-M. Although FWS is an established scale, it is imperative to assess the relevance and representativeness of such scale in the Malaysian context. Therefore, the primary role of the experts was more to ensure that those items were relevant to the scope of measurement within Malaysian context. An item-rating form and FWS-M were distributed to these experts to assess the relevance and representativeness (Monette et al. 2014) of FWS-M. A duration of one month was given to the panels to validate those eight items in FWS. Several feedbacks from the experts were received such as changing the currency symbol (\$) to Malaysian Ringgit and few high vocabulary words were asked to be replaced with colloquial terms. Finally, the improved FWS-M were distributed to a random sample of 20 Malaysian working adults for the purpose of face validation. At this phase, the researchers wanted to know whether the questionnaire was easy to read, interpret and understand (Mohammad Rahim et al., 2013a; 2013b). This face validation acts as a pilot study in this validation study in order to test the language suitability.

#### CONSTRUCT AND FACTORIAL VALIDATIONS

The present study employed factor analysis as the approach to assess the construct validity of FWS-M. At this phase, FWS-M was distributed among 600 Malaysian working adults from both public and private sectors. The sample size calculation was based on Comrey and Lee's (1992) sample size formula in which a sample of 600 would be sufficiently good and serve a good output for factor analysis. The respondents were recruited using a random sampling manner in which lists of working individuals from few public sector agencies ( $n = 3$ ) and private sector companies ( $n = 3$ ) were obtained from the respective managements. After obtaining the lists, a systematic random sampling method was employed to choose the potential samples who met the selection criteria. A few selection criteria that were imposed by the researchers were: (i) Malaysian, (ii) working individuals, (iii) earn some amount as an income. The verbal as well as signed consents were obtained from the respondents prior to their participation. The anonymity and the confidentiality of their responses were assured and prioritised. The respondents took an average of 15 minutes to complete the questionnaire. The questionnaires were administered in a group format



of 5 to 10 respondents. Upon completion of the questionnaire, researchers thanked each respondent and gave a token of appreciation.

#### STATISTICAL ANALYSES

Data were entered and analyzed using the IBM Statistical Package for the Social Sciences (SPSS) version 22.0 Software for descriptive statistics, factor, reliability and correlation analyses. Data were screened to detect the presence of univariate outliers. There were no outliers were detected. The socio-demographic variables of the respondents were summarized using descriptive statistics while several preliminary analyses were run to ensure the sample adequacy and suitability of data for factor analysis. For this reason, preliminary analyses such as multicollinearity, correlation matrix, anti-image correlation matrix, Kaiser-Meyer-Olkin (KMO) and Bartlett's test of sphericity were utilized. Subsequently, the construct validity of FWS-M was tested using Exploratory Factor Analysis (EFA) by extracting factors via Principal Component Analysis (PCA). The Scree plot as well as eigenvalue criteria greater than one were used as an indication for factor extraction. The items with factor loading of 0.4 were considered salient and were retained for the purpose of internal consistency analyses. The internal consistency of items of FWS-M was measured using the Cronbach's Alpha coefficient ( $\alpha$ ) method. In order to ascertain the inter-item correlation among eight items in FWS-M, a Pearson Correlation Coefficient method was employed. Ensuring inter-item correlation among items of a scale is important as it ensures the homogeneity of a scale as a whole.

## RESULTS

#### SOCIO-DEMOGRAPHIC PROFILE

The sample comprised of both gender with majority of them were females (56.3%). It can be deduced that the sample was fairly distributed in terms of gender. The mean age of the respondents was 29.38 years old ( $SD = 5.19$ ) with the youngest respondent who was 20 years old and the eldest was 46 years old. In terms of ethnicity, most of the respondents were Malays (92.5%) with Islam as the practicing religion (93.3%). This study managed to gather data from respondents from

TABLE 1. Socio-demographic Profile of the Respondents (n = 600)

Variable	n (%)
Gender	
Male	262 (43.7)
Female	338 (56.3)
Ethnicity	
Malay	555 (92.5)
Chinese	24 (4.0)
Indian	11 (1.8)
Others	6 (1.0)
Not answered	4 (0.7)
Religion	
Islam	560 (93.3)
Buddha	16 (1.8)
Hindu	8 (1.3)
Christian	11 (1.8)
Others	5 (0.8)
Residential area	
Urban	442 (73.7)
Rural	158 (26.3)
Education level	
Diploma	253 (42.2)
Degree	296 (49.3)
Postgraduate	47 (7.8)
Not answered	4 (0.7)
Marital status	
Single	318 (53.0)
Married	270 (45.0)
Divorce	7 (1.2)
Not answered	5 (0.8)
Number of children	
None	402 (67.0)
1-3	160 (22.0)
4-6	33 (5.5)
6 and above	5 (0.8)
Working sector	
Government	275 (45.8)
Private	325 (54.2)
Monthly income	
Below RM 1000	21 (3.5)
RM 1001 – RM 3000	362 (60.3)
RM 3001 – RM 5000	139 (23.2)
RM 5001 – RM 7000	39 (6.5)
Above RM 7000	18 (3.0)
Not answered	21 (3.5)

both urban and rural settings in which about 73.7% of the respondents were from urban setting. With regards to highest education qualification, majority of the respondents had a bachelor degree (49.3%) and 42.2% of them were diploma holders. Only a few of the respondents had a postgraduate degree (7.8%). Almost half from the total respondents were married (53.0%) and most of them have no children (67.0%). In order to get a balanced data, researchers collected data from working adults

from both public (45.8%) and private (54.2%) sectors so that it can reflect the financial well-being of the respondents as a whole. As for monthly salary, majority of the respondents were earning from RM 1001.00 until RM 3000.00 (60.3%). Table 1 summarizes the socio-demographic profile of the respondents.

#### PRELIMINARY FINDINGS

Generally, the preliminary findings of factor analysis indicated a good output. Based on the Table 2, the multicollinearity value of the whole data was 0.003 and the values of anti-image correlation were ranged between 0.860 and 0.940,

indicating strong associations among the items. Furthermore, the KMO results showed an excellent value of 0.906 which verified the adequacy and suitability of data to proceed with factor analysis along with the significant results of Bartlett's test of sphericity ( $p < 0.001$ ).

TABLE 2. Output of Preliminary Analyses

Analysis	Output
Multicollinearity	0.003
Anti-image correlation	0.860 – 0.940
KMO	0.906
Bartlett's test of sphericity	$\chi^2 (28) = 3433.92$ $p < 0.001$

TABLE 3: Inter-item Correlation Matrix of FWS and FWS-M items

(Item no) item	1	2	3	4	5	6	7	8
(1) What do you feel is the level of your financial stress today? <i>Apakah tahap tekanan kewangan anda hari ini?</i>	1.000							
(2) How satisfied are you with your present financial situation? <i>Setakat manakah anda berpuas hati dengan kedudukan kewangan anda sekarang?</i>	.666	1.000						
(3) How do you feel about your current financial situation? <i>Bagaimanakah perasaan anda tentang keadaan kewangan anda sekarang?</i>	.692	.762	1.000					
(4) How often do you worry about being able to meet normal monthly living expenses? <i>Berapa kerap anda risau tentang keupayaan untuk memenuhi perbelanjaan bulanan?</i>	.671	.633	.790	1.000				
(5) How confident are you that you could find the money to pay for a financial emergency that costs about \$1000.00? <i>Sejauh mana anda yakin anda boleh mendapatkan wang untuk membayar kecemasan kewangan yang berjumlah RM1000.00?</i>	.521	.513	.585	.596	1.000			
(6) How often does this happen to you? You want to go out to eat, go to a movie or do something else and don't go because you can't afford to? <i>Berapa kerap perkara ini berlaku kepada anda? Anda mahu pergi keluar makan, menonton wayang atau lain-lain dan anda tidak pergi kerana anda tidak mampu?</i>	.452	.372	.366	.384	.513	1.000		
(7) How frequently do you find yourself just getting by financially and living paycheck to paycheck? <i>Berapa kerap anda dapati diri anda hanya sekadar cukup makan?</i>	.653	.549	.580	.641	.595	.562	1.000	
(8) How stressed do you feel about your personal finances in general? <i>Secara umum, setakat mana anda berasa tertekan dengan kewangan peribadi anda?</i>	.754	.639	.683	.693	.579	.506	.768	1.000

The inter-item correlation matrix also revealed a good and promising associations between the items (Table 3). Reflecting this, the correlation values between the items in FWS-M ranged between 0.366 and 0.790. Furthermore, the communalities values of the items ranged from 0.384 to 0.772, further validating that each item shared some common variance among each other. With this in mind, it was concluded that the preliminary analyses of the data showed promising results and favor the factorability of the data.

EXPLORATORY FACTOR ANALYSIS

The PCA of the data revealed 1 factor structure with eigenvalues exceeding one, explaining a total variance of 65.28%. In addition, the Scree plot (Figure 1) suggested 1 sub component (factor) with eigenvalue above one. Based on the factor loading output as shown in Table 1, the factor loading of

the items in FWS-M evidenced values between 0.620 and 0.879. The highest factor loading (0.879) was noted for item 1 (*general stress on personel finance*) while the lowest factor loading of 0.620 was observed for item 6 which describes about frequencies of leisure inaffordability.

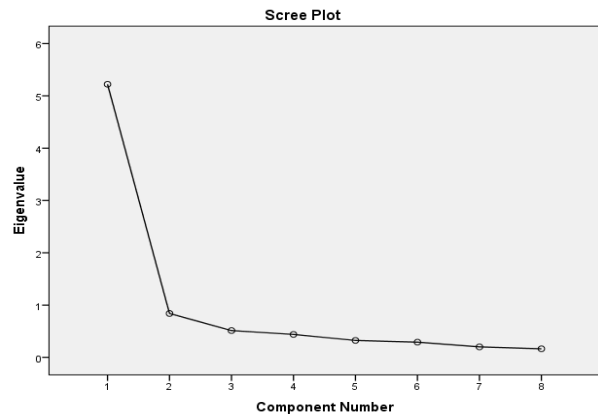


FIGURE 1. Scree plot

TABLE 4. Factor Loadings of FWS-M items

Item Summary		Component 1
Item 1	What do you feel is the level of your financial stress today? <i>Apakah tahap tekanan kewangan anda hari ini?</i>	0.879
Item 3	How do you feel about your current financial situation? <i>Bagaimanakah perasaan anda tentang keadaan kewangan anda sekarang?</i>	0.856
Item 4	How often do you worry about being able to meet normal monthly living expenses? <i>Berapa kerap anda risau tentang keupayaan untuk memenuhi perbelanjaan bulanan?</i>	0.848
Item 8	How stressed do you feel about your personal finances in general? <i>Secara umum, setakat mana anda berasa tertekan dengan kewangan peribadi anda?</i>	0.846
Item 7	How frequently do you find yourself just getting by financially and living paycheck to paycheck? <i>Berapa kerap anda dapati diri anda hanya sekadar cukup makan?</i>	0.830
Item 2	How satisfied you are with your present financial situation? <i>Setakat manakah anda berpuas hati dengan kedudukan kewangan anda sekarang?</i>	0.802
Item 5	How confident are you that you could find the money to pay for a financial emergency that costs about \$1000.00? <i>Sejauh mana anda yakin anda boleh mendapatkan wang untuk membayar kecemasan kewangan yang berjumlah RM1000.00?</i>	0.753
Item 6	How often does this happen to you? You want to go out to eat, go to a movie or do something else and don't go because you can't afford to? <i>Berapa kerap perkara ini berlaku kepada anda? Anda mahu pergi keluar makan, menonton wayang atau lain-lain dan anda tidak pergi kerana anda tidak mampu?</i>	0.620

Extraction Method: Principal Component Analysis.

RELIABILITY ANALYSIS

Overall, the internal consistency of 8 items of this scale exhibited an excellent value of 0.92. At item level, all the items exhibited good internal

consistency with corrected item-total correlation values ranged between 0.546 and 0.826. In addition, no significant differences in terms of Cronbach's Alpha values were noted if items were

deleted. DISCUSSION

The present study is first of its kind to validate the FWS in Malay language among Malaysian working adults. Although FWS which is also known as IFDFW is a well-established tool to assess an individual's financial well-being, it is deemed to have a valid Malay version tool for local use. Scales which were developed using foreign language may lead to inaccurate and misleading information due to several factors such as language, geographical and cultural barriers. In light of this, this study was devoted to adapt a valid and reliable Malay version of FWS. For this reason, a sample of Malaysian working adults were chosen in this study in order to reflect the concept being studied. The validity of FWS-M was ascertained and confirmed via a variety of means, such as by establishing the face, content and construct validities while the reliability of the scale was tested through Cronbach's Alpha method.

This validation study commenced with translation procedures. Although there are many translations procedures available such as Forward-Backward translation, decentering, and committee approach, a combination of Forward-Backward translations and committee approach methods were selected for the purpose of translations. Forward-Backward translations seem to be one of the most widely used technique in order to reduce the problem associated with translation procedures. Furthermore, this type of translation tend to improve the reliability as well as the validity of newly translated measure (Argimon-Pallas et al. 2009) and this approach has been widely accepted in cross-cultural research.

Overall, the outcomes of the translation phase were considered good as the back translated FWS was almost similar with the original version of FWS as there was no contradiction in terms of content and meaning of the items. The moderators ensured that the translated version of FWS is grammatically and terminologically correct while preserving the original meaning of the scale. The moderators were satisfied with the outcome of the translation procedures as the words used are relevant and suit the local context. For example, the currency symbol (\$) was changed to Malaysian Ringgit in item 5 (*How confident are you that you could find the money to pay for a financial emergency that costs about RM 1,000.00?*).

Following translation procedures, FWS-M was

subjected to content validity. Content validity refers to the suitability of the items to measure particular domain and in this study, the content validity phase was carried out as mandatory phase as it is a useful antecedent to examine the construct validity (Bijttebier et al. 2000). With regards to content validity, experts from related fields were assigned since the content validation often performed by the experts within the field (Rosnow & Rosenthal 2013). In item-rating form, the experts indicated all the items as 'most relevant' and 'most representative', indicating all the items are vital in measuring an individual's financial well-being status at least from the perspectives of experts. At this level, no items were omitted as the experts agreed that all the items were pertinent to the concept of financial well-being.

Following content validity, the present validity study also performed face validity although this face validity is known as the most superficial and weakest form of validation. According to Gay, Mills and Airasian (2014), face validity is referred as the degree to which a test or scale appears to measure what it claims to measure. In other words, it can be perceived as an informal judgment of the appropriateness of the items from the perspectives of respondents. Although it is recognized as the weakest form of validation, the researchers decided to perform face validity as it helps to identify typographical errors as well as technical errors in the scale while testing the language suitability with the potential respondents (Mohammad Rahim et al. 2013a; 2013b 2014). At this phase, feedbacks from the respondents were highly encouraged and amendments were made upon their input and feedbacks especially in terms of layout and general format of the questionnaire. In addition, a few academic words were replaced with colloquial words for easy understanding. Overall, none of the respondents raised any major correction with the FWS-M. Thus, it was anticipated that items in FWS-M are easy to understand and the test takers have acknowledged the appropriateness of the items in measuring financial well-being of a person.

The preliminary analyses for sampling adequacy and factorability of data seemed to be excellent and met all the basic requirements. According to Kaiser (1970), KMO values above 0.60 and p value less than 0.50 for Bartlett's test of sphericity are considered basic conditions in order to proceed with factor analysis. In this study KMO value was 0.906



which is above the recommended value by Kaiser (1970). The main reason for this excellent output may be due to the large amount of sample size ( $n = 600$ ). In addition, the multicollinearity value of the whole data was 0.003 which is above 0.00001, suggesting data is suitable for factor analysis (Allen, Bennet & Heritage 2014). Furthermore, the inter-item correlation values between items were ranged between 0.384 and 0.772. According to Allen, Bennet and Heritage (2014), the correlation values above 0.30 suggest relationship between items within a scale. Besides that, good inter-item correlations among items within a scale is a form of validity as it reflects the homogeneity of the items of a scale. Overall, it can be pointed out that all the preliminary analyses largely favor and sufficient to warrant factor analysis of the data.

In general, construct validity is described as the procedure to assess the degree to which an instrument or variable(s) accurately measures constructs that were intended to be measured (Groth-Marnat 2009). Having said that, factor analysis is one of the approaches to assess the construct validation of an instrument. In fact, factor analysis is perceived as one of the most widely used methods to assess the factor structure of a measure which eventually assess the construct validity of such measure (Ratray & Jones 2007). With that in mind, factor analysis was employed as an approach for construct validation.

In this study, Exploratory Factor Analysis was employed to examine the factor structure of FWS-M and PCA was used to extract the factor within this scale. A unidimensional factor was documented upon factor analysis which is corresponding to the original scale of FWS. With regard to factor output, the factor loadings of the items in FWS-M exhibited an excellent factor loading ranging from 0.620 - 0.879. A validity study conducted by Prawitz et al. (2006) showed that the factor loadings of 8 items in original version of FWS were ranged between 0.833 and 0.926. Although the factor loadings of Malay items were lesser compared to the original version, the factor loadings of FWS-M exceeded the recommended value of 0.40, which is largely sufficient and appropriate to be included as an item in the scale (Hair et al. 1998). With that in mind, it was concluded that the factor loadings of FWS-M items are psychometrically sound. At this point, factor rotation was not applied at this phase as only one component or factor was extracted.

Measuring the internal consistency of a scale

is an imperative step in order to produce a reliable scale. Here, internal consistency can be defined as the overall degree of relatedness of each item in FWS-M within the dimension or scale. The internal consistency values of dimensions within FWS-M were calculated using the Cronbach's alpha method which is also known as coefficient alpha; the basic formula for determining the reliability based on internal consistency. The overall internal consistency of 8 items in FWS-M was 0.92 which is considered good for research needs and also for the purpose of assessment (Nunnally & Bernstein 1994). The internal consistency of the original version of FWS is 0.96 (Prawitz et al. 2006) which further supports the consistency of the reliability of FWS across cross cultural settings. Therefore, it can be concluded that FWS-M is a reliable tool in measuring financial well-being of an individual.

The present study has several strengths mainly in that it provides a new evidence for the financial well-being concept in a Malaysian context. This unidimensional factor structure provide further evidence that financial well-being scale is a suitable tool to be used in different population although it is developed in English language. Besides that, this validation study has strength in terms of methodical manner. Here, the scale went through a detail process of validity. In terms of sample size, a large number of respondents were recruited in this study and such sample is nationally representative. In summary, the present study suggests that FWS-M is a valid and reliable tool to be used among Malaysian population to measure the financial well-being of an individual. In this study, a number of limitations should be acknowledged. Since majority of the respondents are Malay Muslims, the findings somehow limits the generalisability of the findings to the entire Malaysian population. Secondly, other objective forms of validations such as discriminant and convergent validity tests were not carried out in this study. Therefore, this FWS-M is always subjected to further validity tests.

## CONCLUSION

In conclusion, the present study had successfully documented the Malay version of FWS as a valid and reliable tool in measuring the perception of financial well-being among Malaysian test takers. Although this scale was originally developed in the West, through this study, it was found that this scale

is suitable and relevant to be used in Malaysian settings due to the excellent psychometric properties shown by this scale. Hence, it is highly anticipated that many researchers and practitioners would benefit from having this scale in Malay version for a more precise and accurate measurement of financial well-being.

#### CONFLICT OF INTEREST

There is no conflict of interest in this study as far as the authors are concerned.

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