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Adaptation and Psychometric Properties of The Indonesian Version of The Financial Well-Being Scale

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Abstract. *Financial well-being is a key indicator of individual welfare and family financial resilience. However, the absence of a standardized Indonesian measurement tool hinders research in this area. This study aimed to adapt the widely used unidimensional In Charge Financial Distress/Financial Well-Being (IFDFW) scale and to provide comprehensive validity evidence for its use in Indonesia. The research was conducted in two main stages: a cross-cultural adaptation and a psychometric validation. Data were collected from 150 workers aged 20–50 across Indonesia using an online survey and a purposive sampling technique. The analysis included Aiken's V and FVI coefficients to assess content validity and response processes, as well as Confirmatory Factor Analysis (CFA) to confirm the scale's internal structure. The study also examined the scale's convergent validity through correlation tests with the Personal Financial Wellness Questionnaire. The results showed that the adapted scale has acceptable content validity (Aiken's $V = 0.68$) and a high level of clarity (FVI = 0.88). The CFA demonstrated good model fit (CFI = 0.97, TLI = 0.96, RMSEA = 0.08) and high internal reliability ($\alpha = 0.89$). Additionally, the scale showed significant correlations with the subjective perspective, financial behaviour, and financial satisfaction dimensions of financial wellness. These findings confirm that the 8-item Indonesian version of the IFDFW scale is a valid and reliable instrument. Researchers can use this tool to advance financial well-being studies and for practitioners to design effective financial literacy interventions in Indonesia*

Keywords: *Cross-cultural adaptation; financial well-being; measurement; reliability; validity*

INTRODUCTION

Financial well-being is a crucial concept associated with numerous positive outcomes. The study by Netemeyer et al., (2018) highlights its significant impact on overall well-being. Furthermore, it contributes to a corporate image and fosters trust within the organizational sphere, while also promoting economic growth at a societal level (Brüggen et al., 2017). Conversely, low financial well-being can lead to negative consequences, such as reduced productivity (Garman et al., 1996), which is a pressing issue in Indonesia, where a UNICEF et al., (2021) indicated that 74.3% of households experienced a decrease in income. This financial pressure is critical, as systematic reviews confirm that financial insecurity is a primary psychological factor contributing to increased stress, anxiety, and complicated mental health outcomes (Mosha & Ngulube, 2024). This phenomenon underscores the urgent need to understand and evaluate the financial well-being of the Indonesian population.

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Financial well-being is widely defined as an individual's subjective perception of financial stress and satisfaction with their current financial condition (Prawitz et al., 2006). It also encompasses an individual's ability to meet financial obligations, feel secure about their financial future, and have the freedom to make choices that improve their quality of life (Michael Collins & Urban, 2020; Sinani, 2021). As a core component of subjective well-being alongside psychological and social aspects (Zemtsov & Osipova, 2016), it is a critical variable that requires accurate measurement.

To measure this construct, several tools have been developed. This study focuses on the InCharge Financial Distress/Financial Well-Being (IFDFW) scale. The scale's conceptualization began with an extensive review of research spanning the 1980s and 1990s, in which researchers integrated findings from the personal finance, stress, bankruptcy, and well-being literature (Prawitz et al., 2006). This process led to the identification of 58 core concepts related to financial satisfaction, stressors, behaviours, and personal judgment regarding economic resources (Prawitz et al., 2006). This foundation established financial well-being as a subjective psychological construct viewed through both psychological and behavioural economic perspectives. Unlike tools that rely solely on objective financial metrics (e.g., debt-to-income ratio), the IFDFW scale is primarily grounded in Subjective Well-Being (SWB) theories, where satisfaction and stress are viewed as key psychological outcomes. The choice to focus on this subjective, psychological appraisal aligns with findings in Indonesian psychological research, which emphasize that eudemonic (psychological) concepts of well-being often hold greater predictive power than strictly hedonic measures (Yuniasanti et al., 2024). Crucially, the scale aligns with behavioural economics by capturing an individual's perceived financial stress and satisfaction, reflecting their emotional and cognitive appraisal of their financial reality (Netemeyer et al., 2018). This comprehensive theoretical approach makes the IFDFW scale a robust tool for measuring the psychological impact of financial conditions and how individuals cope with financial pressures.

While other instruments exist, such as the Personal Financial Wellness Questionnaire (Joo, 1998), which has been adapted in Indonesia (Renanita et al., 2024), their validation studies often focus on content validity and internal structure. The original IFDFW scale, in contrast, demonstrates superior psychometric properties across a broader range of criteria, including face validity, content validity, Concurrent and Predictive Criterion Validity, Convergent and Discriminant Construct Validity, and high Internal Consistency (Prawitz et al., 2006). This comprehensive psychometric profile, combined with its robust theoretical grounding, makes the IFDFW scale the most suitable instrument for this study.

While the IFDFW scale has demonstrated robust psychometric properties across various contexts, having been successfully adapted in countries such as Malay (Kamaluddin et al., 2018), Brazil (Carvalho et al., 2021), the Arab (El Zouki et al., 2025), and Korea (Kim et al., 2025), a formally validated Indonesian version remains absent. This lack of a comprehensive, culturally-adapted instrument for the Indonesian population represents a critical methodological gap. Therefore, this research aims to fill this critical gap by adapting the IFDFW scale and collecting comprehensive validity evidence from four key sources: test content, response processes, internal structure, and relations to other variables, as outlined by (American Educational Research Association et al., 2014).

Based on the background and urgency outlined, this study will address the following research questions: (1) Does the IFDFW scale demonstrate strong content validity following its adaptation into Indonesian? (2) Is the internal structure of the Indonesian version of the IFDFW scale consistent with its original theoretical model? (3) Does the Indonesian version of the IFDFW scale show adequate validity evidence based on its relationship with other relevant variables? The

findings are expected to contribute to the field of economic psychology by providing a reliable and valid tool for measuring financial well-being in Indonesia. For practitioners, the resulting Indonesian version of the IFDFW scale can be used to assess financial well-being and inform effective intervention strategies accurately.

METHOD

Research Design

This study employed a quantitative approach, with an online survey serving as the primary data collection instrument for both the adaptation process and the validity evidence stages of the IFDFW scale. The research was conducted in Indonesia, involving participants aged 20–50 years who were workers. The study was carried out in two distinct phases: an adaptation study and a validity evidence study.

The adaptation of the IFDFW scale into its Indonesian version followed the cross-cultural adaptation guidelines proposed by (Beaton et al., 2000). The process consisted of five key stages. First, a forward translation was conducted by two translators, resulting in two separate translations (T1 and T2). Second, the researchers synthesized these translations by comparing, evaluating, and creating a composite version (T12) that was conceptually and grammatically appropriate. Third, a back-translation of the T12 version was performed by two different translators who were blind to the original scale's content to ensure conceptual equivalence. The outputs (BT1 and BT2) were then compared with the original items. Fourth, an expert committee review was conducted with a psychometrician and an expert in economic psychology. All collected data (T1, T2, T12, BT1, BT2, and the original items) were submitted for their review and evaluation, and their feedback served as the basis for developing the final test items. Finally, a pre-testing stage was carried out with 32 participants to evaluate the readability and clarity of the adapted items. While participants generally understood the items well, some feedback was received, such as comments on the wording of Item 6 and the similarity between Item 1 and Item 8. Based on this feedback, the wording of Item 6 was revised to improve clarity without altering its original meaning. The whole adaptation process is summarised in Figure 1 and Table 1.

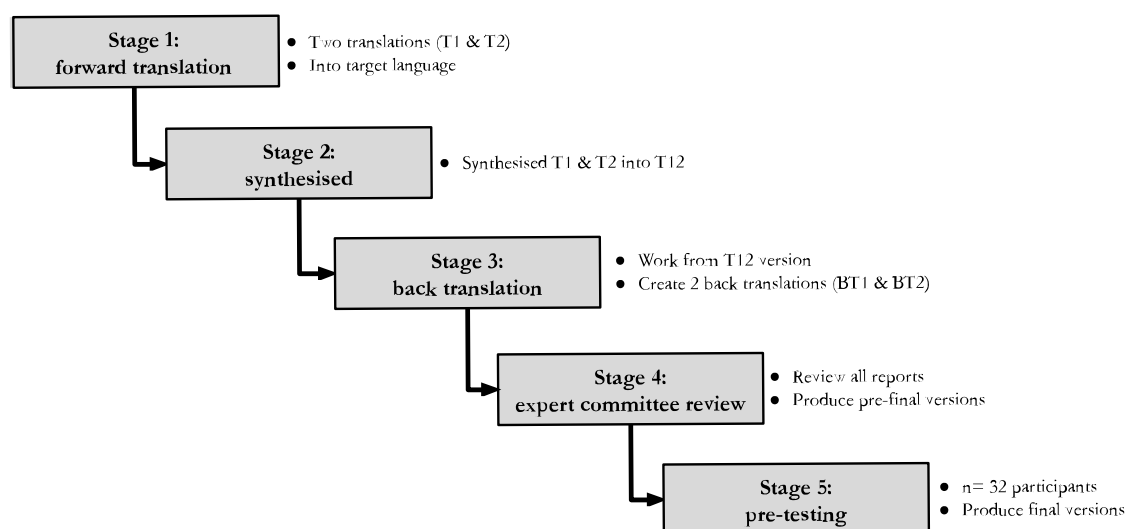


Figure 1.
Diagrammatic Representation of the IFDFW Scale Adaptation Process

Table 1.
Summary of the Cross-Cultural Adaptation Process of the IFDFW Scale

Item	Original	T1	T2	T12	BT1	BT2	Final Synthesis
FWB 1	What do you feel is the level of your financial stress today?	<i>Seberapa tingkat stress keuangan Anda hari ini?</i>	<i>Menurut Anda, bagaimana tingkat tekanan finansial Anda hari ini? Stress luar biasa-Tidak stress sama sekali</i>	<i>Seberapa tingkat stress keuangan Anda hari ini?</i>	What is your financial stress level today?	What is your financial stress level today?	<i>Seberapa tingkat stress keuangan Anda hari ini?</i>
FWB 2	How satisfied you are with your present financial situation	<i>Seberapa puaskah Anda dengan situasi keuangan Anda saat ini?</i>	<i>Seberapa puas Anda dengan kondisi keuangan Anda saat ini? Tidak puas-puas</i>	<i>Seberapa puas Anda dengan kondisi keuangan Anda saat ini?</i>	How satisfied are you with your current financial condition?	How satisfied are you with your current financial condition?	<i>Seberapa puas Anda dengan kondisi keuangan Anda saat ini?</i>
FWB 3	How do you feel about your current financial situation?	<i>Bagaimana perasaan Anda mengenai situasi keuangan Anda saat ini?</i>	<i>Bagaimana perasaan Anda tentang kondisi keuangan Anda saat ini?</i>	<i>Bagaimana perasaan Anda mengenai kondisi keuangan Anda saat ini?</i>	How do you feel about your current financial condition?	How do you feel about your current financial condition?	<i>Bagaimana perasaan Anda mengenai kondisi keuangan Anda saat ini?</i>
FWB 4	How often do you worry about being able to meet regular monthly living expenses?	<i>Seberapa sering Anda merasa khawatir tidak dapat memenuhi biaya hidup bulanan yang normal?</i>	<i>Seberapa sering Anda khawatir tidak dapat memenuhi biaya hidup bulanan? Merasa khawatir sepanjang waktu-tidak pernah khawatir</i>	<i>Seberapa sering Anda merasa khawatir tidak dapat memenuhi biaya hidup bulanan seperti biasanya?</i>	How often do you feel worried about not being able to cover your monthly living expenses as usual?	How often do you worry that you cannot fulfill your typical monthly needs?	<i>Seberapa sering Anda merasa khawatir tidak dapat memenuhi biaya hidup bulanan seperti biasanya?</i>
FWB 5	How confident are you that you could find the money to pay for a financial emergency that costs about \$ 1.000?	<i>Seberapa yakin Anda bahwa Anda dapat memperoleh uang untuk mengatasi keadaan darurat keuangan yang membutuhkan sekitar 6753,30 yunan?</i>	<i>Seberapa yakin Anda bisa mendapatkan uang untuk membayar keadaan darurat yang membutuhkan sekitar 6753,30 yunan? Tidak yakin-Sangat yakin</i>	<i>Seberapa yakin Anda bisa mendapatkan uang untuk mengatasi keadaan darurat keuangan yang membutuhkan sekitar Rp.15.000.000?</i>	How confident are you in obtaining the necessary funds to overcome a financial emergency that requires approximately Rp. 15,000,000?	How confident are you that you can cover a financial emergency that requires approximately IDR 15.000.000?	<i>Seberapa yakin Anda bisa mendapatkan uang untuk mengatasi keadaan darurat keuangan yang membutuhkan sekitar Rp.15.000.000?</i>

Item	Original	T1	T2	T12	BT1	BT2	Final Synthesis
FWB 6	How often does this happen to you? "You want to go out to eat, go to a movie, or do something else, and do not go because you cannot afford to?"	<i>Seberapa sering Anda mengalami situasi ini? "Anda ingin pergi makan di luar, menonton film, atau melakukan sesuatu yang lain tetapi tidak melakukannya karena tidak mampu?"</i>	<i>Seberapa sering hal ini terjadi pada Anda? "Anda ingin makan di luar, nonton film, atau melakukan sesuatu yang lain tetapi tidak melakukannya karena tidak mampu?"</i>	<i>Seberapa sering Anda mengalami situasi ini? "Anda ingin pergi makan di luar, menonton film, atau melakukan sesuatu yang lain tetapi tidak melakukannya karena tidak mampu?"</i>	How often do you experience this situation? "You want to go out to eat, see a movie, or do something else, but can not because you cannot afford it".	How often do you experience these situations? "You want to go out to eat, see a movie, or do something else, but don't because you cannot afford it?"	<i>Seberapa sering Anda mengurungkan niat untuk pergi makan di luar, menonton film, atau melakukan sesuatu yang lain karena merasa tidak mampu?</i>
FWB 7	How frequently do you find yourself just getting by financially and living paycheck to paycheck?	<i>Seberapa sering Anda merasa hanya memiliki uang yang cukup untuk hidup, dan Anda hidup dari gaji ke gaji?</i>	<i>Seberapa sering Anda merasa hanya berusaha bertablan secara finansial dan hidup dari gaji ke gaji?</i>	<i>Seberapa sering Anda merasa hanya memiliki uang yang cukup untuk hidup, dan hidup dari gaji ke gaji?</i>	How often do you feel like you only have money to live paycheck to paycheck?	How often do you feel like you only have enough money to live from paycheck to paycheck?	<i>Seberapa sering Anda merasa hanya memiliki uang yang cukup untuk hidup, dan hidup dari gaji ke gaji?</i>
FWB 8	How stressed do you feel about your personal finances in general?	<i>Seberapa banyak Anda merasa tertekan tentang keuangan pribadi Anda secara umum?</i>	<i>Seberapa tertekan Anda dengan kenangan pribadi Anda secara umum?</i>	<i>Seberapa stress Anda terhadap kenangan pribadi Anda secara umum?</i>	How stressed are you about your personal finances in general?	How stressed are you about your personal finances in general?	<i>Seberapa stress Anda terhadap kenangan pribadi di Anda secara umum?</i>

Notes T1 = translation result by translator 1; T2 = translation result by translator 2; T12 = initial synthesis result; BT1 = back translation result by translator 3; BT2 = back translation result by translator 4.

This study collected validity evidence from four sources, following the guidelines by (American Educational Research Association et al., 2014). First, evidence was gathered based on test content. It involved obtaining expert judgment from two subject matter experts, who provided both qualitative and quantitative assessments of the relationship between the test content and the financial well-being construct. The output of this validity evidence was the experts' qualitative feedback and the quantitative Aiken's V value. Second, evidence was collected based on response processes. A total of 32 participants were involved, who provided clarity and comprehensibility ratings for each item using a specific rating scale. The statistical output of this assessment was the FVI (Face Validity Index) value. Third, evidence was derived from the internal structure. A confirmatory factor analysis (CFA) was conducted to confirm that all items indeed measured the financial well-being construct. A Multiple Indicator Multiple Causes (MIMIC) model was also employed to detect differential item functioning (DIF), which identifies varying probabilities of responding to specific test items across different individual characteristics. The key outputs of this analysis were the test factor loadings and the goodness-of-fit indicators. Fourth, evidence was established based

on relations to other variables. A correlation test was performed with the financial wellness variable, as measured by the Personal Financial Wellness Questionnaire. The results of this analysis included the significance value and the magnitude of the r -value of the relationship between financial well-being and financial wellness.

The In-Charge Financial Distress/Financial Well-Being (IFDFW) scale was chosen for adaptation due to its strong conceptual and psychometric properties. The scale was initially developed by (Prawitz et al., 2006) as a brief yet comprehensive tool to measure an individual's subjective experience of financial distress and financial well-being. It is a unidimensional scale, consisting of 8 items that capture an individual's perceived financial pressure and satisfaction with their current financial situation. Previous validation studies in various countries have consistently demonstrated its robust psychometric properties, including high internal consistency and strong construct validity. This study was conducted to provide a concise and valid measurement tool for research and clinical use.

Sampling

Sampling was conducted using a non-probability purposive sampling technique to target a specific population. The inclusion criteria were workers aged between 20 and 50 years. This age range was selected as it represents a crucial period in the financial life cycle, during which individuals typically become financially active and make significant financial decisions, such as managing income, savings, and debt (Keown, 2013; Otoritas Jasa Keuangan, 2025). The online questionnaire was distributed from December 2024 to February 2025.

The required sample size was rigorously determined through a Monte Carlo simulation to ensure statistical adequacy for the subsequent Confirmatory Factor Analysis (CFA). The simulation aimed to satisfy three critical conditions: parameter bias of less than 10%, standard error bias below 5%, and a confidence interval coverage between 0.91 and 0.98. By setting the factor indicator residual variances to 0.36 and the factor variance to one (Muthén & Muthén, 2002), the simulation confirmed that a minimum sample size of $N = 150$ was sufficient to maintain a statistical power of approximately 0.80. A total of 150 eligible participants were subsequently recruited, meeting the established requirement for the internal structure validity evidence.

Measurement

The primary measurement tool used in this study is the Indonesian adaptation of the In Charge Financial Distress/Financial Well-Being (IFDFW) Scale. It is a unidimensional scale consisting of 8 items designed to measure the single factor of perceived financial distress/financial well-being. The original scale demonstrated high reliability ($\alpha = 0.956$) with factor loadings ranging from 0.857 to 0.926 (Prawitz et al., 2006).

The IFDFW scale is widely recognized as a robust instrument that has been adapted and validated across various cultural contexts. This extensive international application demonstrates the scale's strong conceptual applicability and psychometric stability. To provide a comprehensive overview of the scale's performance in different settings, a comparison of recent adaptation studies is presented in Table 2. As demonstrated, previous adaptation studies have consistently confirmed the unidimensional factor structure and reported high internal consistency, which this research aims to validate within the Indonesian context.

The Indonesian version of the Personal Financial Wellness Questionnaire (PFWQ) (Joo, 1998) was used as a secondary scale to collect validity evidence based on its relationship with another variable (convergent validity). The PFWQ is a multidimensional scale that measures three distinct

factors: subjective perspective (5 items), financial behaviour (6 items), and financial satisfaction (3 items), totaling 14 items. Original psychometric findings for the adapted PFWQ in Indonesia reported high internal consistency (ω values: subjective perspective = 0.83; financial behaviour = 0.754; financial satisfaction = 0.90), with factor loadings ranging from 0.242 to 0.938 (Renanita et al., 2024)

In the initial stage of testing, the PFWQ underwent modification to achieve adequate model fit. Following a review of the factor loadings and modification indices, four items were subsequently dropped, resulting in a final 10-item version consisting of four subjective perception items, three financial behaviour items, and three financial satisfaction items.

The IFDFW scale utilized a 10-point Likert scale, ranging from 1 to 10. Each participant's response was scored identically to the chosen numerical value (e.g., a response of '5' was scored as 5 points). For the PFWQ scale, two different scoring methods were used. The subjective perception and financial behaviour dimensions employed a 5-point Likert scale ('Strongly Disagree'/'Never' to 'Strongly Agree'/'Always') with reverse scoring applied to unfavourable items. Conversely, the financial satisfaction dimension adopted a 10-point Likert scale.

Table 2.
A Comparative Overview of IFDFW Scale Adaptation in Different Countries

Study	Country/ Language	Sample Size	Factor Structure	Adaptation Process	Reliability
Kamaluddin et al., 2018	Malay	N=600	One Factor (unidimensional)	Forward-backward translations; content and face validations; construct and factorial validations	$\alpha = 0.92$
Carvalho et al., 2021	Brazilian Portuguese	N=60	One Factor (unidimensional)	Initial translation into Portuguese; back-translation; cultural, conceptual, experimental, and idiomatic adaptation according to the target population; evaluation by a review committee; preliminary testing; preliminary verification of reliability and internal consistency.	$\alpha = 0.878$
El Zouki et al., 2025	Arabic	N=403	One Factor (Intedimensional)	Translate and validate the Arabic version	$\omega = 0.95$, $\alpha = 0.95$
Kim et al., 2025	Korean	N=2,044	One Factor (Intedimensional)	Initial translation, back translation, expert committee review, and validation of the Korean version	$\omega = 0.934$, $\alpha = 0.928$

Data Collection

Data collection was executed using an electronic form (Google Form) distributed via direct

links on key social media platforms, including Instagram, WhatsApp, and X (formerly twitter). This strategy of utilizing electronic platforms was driven by their extensive use among the target demographic of workers aged 20–50 years, thereby maximizing the potential for reaching a significant and relevant sample pool. The data collection phase spanned three months, running from December 2024 to February 2025.

Upon accessing the form, participants were first presented with an informed consent sheet that clearly detailed the study's purpose, guaranteed confidentiality, and confirmed their absolute right to withdraw at any time without penalty. Following consent, the participants proceeded through the survey in a fixed order, first answering demographic questions (including gender, marital status, level of education, and monthly income) before completing the research scales. A clear completion guide was provided at the beginning of each section to ensure clarity and adherence to the response format. We successfully obtained a total of 150 participants who met all specified inclusion criteria.

Data Analysis

Following the guidelines set forth by the Standards for Educational and Psychological Testing (American Educational Research Association et al., 2014), this study collected evidence of validity from four distinct sources.

First, evidence of validity based on test content is obtained by statistical analysis of Aiken's V formula. (Aiken, 1985) formulated a formula to calculate the content-validity coefficient obtained from the assessment of a panel of n experts on an item, in terms of the extent to which the item represents the construct being measured. The formula for Aiken's V formula is as seen in (1). The value of Aiken's V coefficient ranges from 0 to 1. The closer to 1, the more adequate the content validity of each item.

$$V = \Sigma S / [n(c - 1)] \quad (1)$$

Notes. $S = r - lo$; lo = Lowest validity score (in this case = 1); c = Highest validity score (in this case = 5); r = Score given by a panel of experts.

Second, evidence of validity based on the response process is obtained by statistical analysis of the face validity index (FVI). (Yusoff, 2019) formulated a formula to assess the clarity and comprehensibility of instructions and language obtained from several raters on the instructions and items of a measuring instrument. The FVI formula is as seen in (2). Similar to Aiken's V, the FVI value ranges from 0 to 1. The closer to 1, the more adequate the level of validity based on the response process is.

$$S - FVI / Ave = \Sigma Q / n \quad (2)$$

Notes. Q = score given by the rater; n = number of raters.

Third, evidence of validity based on internal structure is obtained by confirmatory factor analysis (CFA). CFA is a commonly relied upon method in testing construct validity (Umar & Nisa, 2020). The reference cut-off values are factor loading index ≥ 0.4 , chi-square > 0.05 , RMSEA < 0.08 , SRMR < 0.08 , CFI ≥ 0.9 , and TLI ≥ 0.9 (Wang & Wang, 2019). In addition, covariates are also involved in this analysis, also known as the multiple indicator multiple causes (MIMIC) model, to detect differential item functioning (DIF). The MIMIC model was chosen because it is considered adequate for detecting DIF (Finch, 2005; Woods, 2009). The covariates examined were gender (0 = male; 1 = female) and income status (0 = non-fixed income; 1 = fixed income). The authors used Mplus 8.3 software (Muthén & Muthén, 2002) using the maximum likelihood estimator to conduct the CFA and the MIMIC model.

Fourth, evidence of validity based on relationships with other variables is obtained by statistical correlation test analysis. The Spearman correlation test was chosen as a statistical method to measure the level of relationship between variables, specifically financial well-being (as measured by the IFDFW scale) and financial wellness (as assessed by the Personal Financial Wellness

Questionnaire Scale).

This study also assessed the internal reliability of the Indonesian version of the IFDFW scale using McDonald's Omega coefficient (ω). The omega coefficient was selected over other reliability coefficients because it is more generalizable and can be applied in various research designs (Kalkbrenner, 2023; Mcneish, 2017). Additionally, it is sensitive to factor loadings, which leads to more precise reliability estimates (Hayes & Coutts, 2020). The coefficient was calculated using the latent variable modelling capabilities of Jamovi 2.6.19 (Jamovi - Open Statistical Software for the Desktop and Cloud, n.d.).

FINDINGS AND DISCUSSION

Participants Characteristics

Table 3 shows that the majority of research participants are female, with unmarried marital status, an S-1 education level, a fixed income status, and an income range of Rp 1.5 million to Rp 3 million.

Table 3.
Participant characteristics (N=150)

Characteristics	Frequency (n)	Percentage (%)
Genders		
Male	22	14.7
Female	128	85.3
Marital Status		
Single	101	67.3
Married (no children)	25	16.7
Married (have children/s)	24	16
Level of Education		
Junior Secondary	1	0.7
Higher Secondary	16	10.6
Associate Degree	21	14
Undergraduate	100	66.7
Postgraduate	12	8
Income Status		
Fixed income	96	64
Non-fixed income	54	36
Monthly Income		
Under IDR 1.500.000	28	18.7
IDR 1.500.001 - 3.000.000	53	35.3
IDR 3.000.001 - 7.500.000	47	31.3
Above IDR 7.500.000	22	14.7

Validity Evidence Based on Test Content

This evidence of validity is obtained from expert judgments of the IFDFW scale from the extent to which the items represent the construct being measured. Qualitatively, expert judgements do not leave specific notes in general. Following the quantitative results, the statistical calculation formula used for this validity evidence is Aiken's V formula. This study obtained evidence of content validity at the expert review stage (adaptation process) involving two expert assessors. Based

on statistical calculations using Aiken's V formula, the items of the IFDFW scale have a range of 0.5 - 0.875 and show an average value of 0.6875 (See Table 4).

Table 4.
Results of Aiken's V statistic

Item	Rater 1	Rater 2	ΣS	$n(c - 1)$	V
FWB 1	1	3	4	8	0.5
FWB 2	4	3	7	8	0.875
FWB 3	3	3	6	8	0.75
FWB 4	3	3	6	8	0.75
FWB 5	3	3	6	8	0.75
FWB 6	2	3	5	8	0.625
FWB 7	2	3	5	8	0.625
FWB 8	2	3	5	8	0.625
<u>V</u>					0.6875

Validity Evidence Based on Response Processes

Evidence of this validity is obtained from analyzing individual responses to the clarity of instructions and language used in the Indonesian version of the IFDFW scale. Qualitatively, the majority of raters stated that the instructions and language in the Indonesian version of the IFDFW scale were clear and comprehensive. The statistical calculation formula for this validity evidence utilizes the face validity index (FVI) formula. This study obtained evidence of content validity at the pre-testing stage (adaptation process) involving X participants. Based on statistical calculations using the FVI formula, items from the Indonesian version of the IFDFW scale have a range of 0.781 - 0.969 and show an average FVI value of 0.883 (See table 5).

Table 5.
FVI statistical results

Item	Q	FVI
FWB 1	25	0.781
FWB 2	31	0.969
FWB 3	30	0.938
FWB 4	29	0.906
FWB 5	25	0.781
FWB 6	29	0.906
FWB 7	27	0.844
FWB 8	30	0.938
<i>S-FVI/Ave</i>		0.883

Validity Evidence Based on Internal Structure

Confirmatory Factor Analysis (CFA). Evidence for the internal structure of the Indonesian version of the IFDFW scale was obtained through a confirmatory factor analysis (CFA). The initial test results showed that the model did not fit the data well, with several model fit indices failing to meet the recommended cut-off criteria (Factor loading range: 0.551 - 0.885; Chi-square (20) = 65.181, $p < 0.0001$; RMSEA = 0.123; SRMR = 0.050; CFI = 0.923; TLI = 0.892) (see Figure 2).

To achieve an acceptable model fit, we introduced modifications based on residual correlations between three pairs of items: FWB 8 and FWB 1, FWB 7 and FWB 1, and FWB 3 and FWB 2. These modifications were theoretically justified. Correlated errors can arise from similarly

worded (Brown, 2015). For instance, the correlation between FWB 8 and FWB 1 likely stems from their semantic similarity, as both may be perceived as measuring a similar aspect of financial well-being. After these three model modifications, the measurement accuracy test showed a satisfactory model fit index (Chi-square (17) = 32.162, $p = 0.0144$; RMSEA = 0.077; SRMR = 0.038; CFI = 0.974; TLI = 0.957) (see Figure 3).

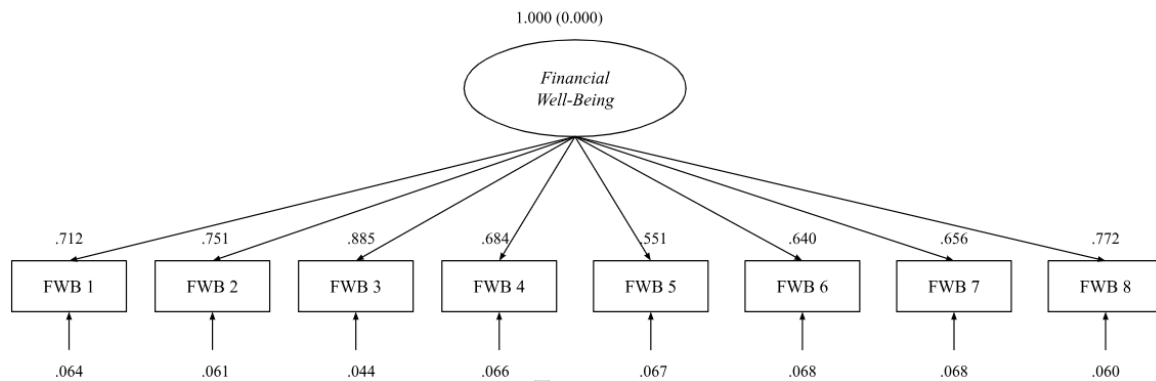


Figure 2
Initial CFA results (standardized estimates)

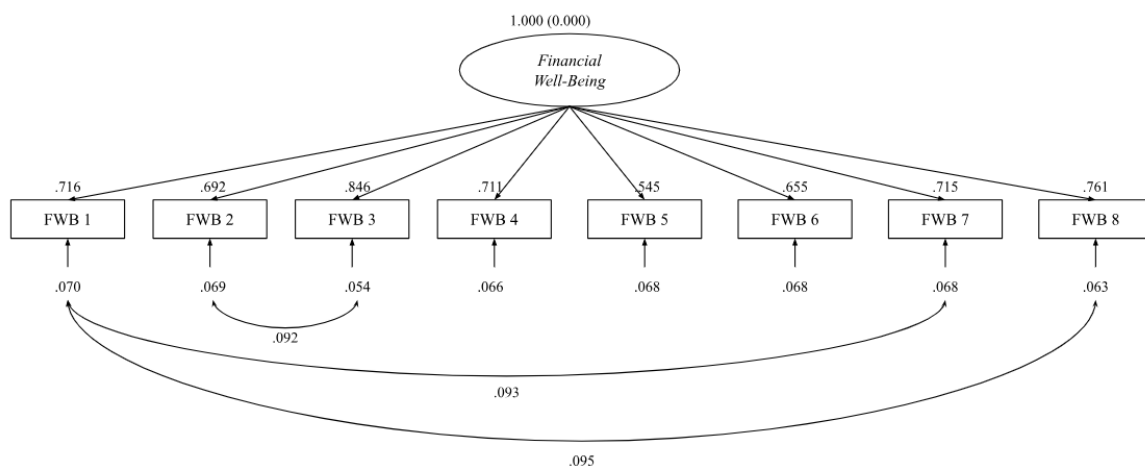


Figure 3
CFA results after model modification (standardized estimates)

The results of the final CFA showed that all items of the Indonesian version of the IFDFW scale were statistically acceptable, with a significance value of $p \leq 0.05$ and a good factor loading range of 0.54-0.846 (standardized estimate ≥ 0.50) (see Table 6). These findings support the unidimensionality of the adapted scale and provide strong evidence for its internal structure in the Indonesian context.

Table 6
Factor loading of times

Item	Item description	Factor loading
FWB 1	<i>Seberapa tingkat stress keuangan Anda hari ini?</i>	0.716
FWB 2	<i>Seberapa puas Anda dengan kondisi keuangan Anda saat ini?</i>	0.692
FWB 3	<i>Bagaimana perasaan Anda mengenai kondisi keuangan Anda saat ini?</i>	0.846
FWB 4	<i>Seberapa sering Anda merasa khawatir tidak dapat memenuhi biaya hidup bulanan seperti biasanya?</i>	0.711

Item	Item description	Factor loading
FWB 5	<i>Seberapa yakin Anda bisa mendapatkan uang untuk mengatasi keadaan darurat keuangan yang membutuhkan sekitar Rp.15.000.000,00 ?</i>	0.545
FWB 6	<i>Seberapa sering Anda mengurungkan niat untuk pergi makan di luar, menonton film, atau melakukan sesuatu yang lain karena merasa tidak mampu?</i>	0.655
FWB 7	<i>Seberapa sering Anda merasa hanya memiliki uang yang cukup untuk hidup, dan hidup dari gaji ke gaji?</i>	0.715
FWB 8	<i>Seberapa stress Anda terhadap keuangan pribadi Anda secara umum?</i>	0.716

Multiple Indicator Multiple Causes (MIMIC) Model. We then performed a MIMIC (Multiple Indicator Multiple Causes) model analysis to examine the influence of observed exogenous variables on our latent factor and to detect Differential Item Functioning (DIF) across the eight observed indicators (items).

Unlike the previous CFA, this model included covariates to test their impact on the latent variable and the items measuring financial well-being. The covariates were gender (coded 0 for male and 1 for female) and income status (coded 0 for non-fixed income and 1 for fixed income). A significant direct effect from a covariate indicates an influence on the latent factor and, consequently, DIF on the items where a significant difference exists between the categorical groups.

The analysis was conducted using the robust maximum likelihood (MLR) estimation method. This robust method provides reliable estimates and corrected model fit indices, even when basic assumptions are violated. It is preferred for its ability to produce more accurate model fit results.

Confirmatory factor analysis (CFA) with a covariate or multiple indicator multiple causes (MIMIC) model was also conducted in this study. The MIMIC Model results showed a good fit (Chi-square (31) = 55.391, $p = 0.0045$; RMSEA = 0.072; SRMR = 0.054; CFI = 0.945; TLI = 0.921). The chi-square, RMSEA, CFI, TLI, and SRMR values indicate a good model fit. Thus, the MIMIC model provides a satisfactory representation of the data.

Based on the MIMIC model results, gender was not a direct predictor of the financial well-being construct ($p = 0.409$), indicating that financial well-being scores did not significantly differ between male and female participants at the latent level. In contrast, income status was found to have a significant association with the financial well-being construct (see Table 7). Specifically, participants with a fixed income status reported a greater financial well-being score than those with a non-fixed income status ($p < 0.001$; $B = 0.401$).

Table 7
The Impact of Covariates on Financial Well-Being

Covariates	MIMIC Model			
	B	SE.	p	β
Gender	-0.073	0.089	0.409	-0.825
Income Status	0.401	0.081	< 0.001	4.944
FWB4 ON Gender	-0.215	0.066	0.001	-3.230

Note. B=unstandardized estimate; S.E.=standard error; β =standardized estimate; Gender: 0=male, 1=female; Income Status: 0=non-fixed income; 1=fixed income. * $p < .05$.

Furthermore, the MIMIC model was used to screen for potential DIF. An examination of the modification indices suggested the presence of DIF in one item (FWB 4), indicating that participants from different gender groups had a different probability of responding to the item despite having the same score on the underlying factor ($B = -0.215$; $SE = 0.066$; $p = 0.001$; $\beta = -3.230$). The negative sign of the beta coefficient suggests that male participants tended to score

higher on Item FWB 4 than female participants. This finding indicates that Item FWB 4 may not function equivalently across gender groups, which warrants further investigation.

Validity Evidence Based on Relations to Other Variables

Evidence of this validity is obtained from analyzing other variable scores. In this case, the researcher used a relationship with another scale hypothesized to measure the same construct as Financial Well-Being, namely Financial Wellness. In this case, researchers used the Spearman correlation test to determine the direction and strength of the correlation between the variables. The Spearman test was also used because the data did not pass the assumption test, as indicated by a Kolmogorov-Smirnov significance value of 0.009 ($p < 0.05$). Based on the Spearman correlation test, the coefficient values between the financial well-being variable and each dimension of financial health were obtained. The financial behaviour dimension ($r = 0.272$; $p < 0.001$) showed the strongest correlation with financial well-being, compared to the subjective perception dimension ($r = 0.253$; $p < 0.001$) and financial satisfaction ($r = 0.253$; $p < 0.001$).

Table 8
Spearman correlation test results (N=150)

Variables	Spearman Correlation			
	1	2	3	4
Financial Well-Being				
Subjective Perception	0.253**			
Financial Behaviour	0.272**	0.911**		
Financial Satisfaction	0.253**	0.849**	0.840**	

Note. ** $p < 0.01$; * $p < 0.05$.

Reliability of the IFDFW Scale Indonesia Version

The reliability test of the scale uses the McDonald's Omega (ω) formula. The reliability coefficient is expressed as a number and falls within the range of 0 to 1.00. The Indonesian version of the IFDFW scale obtained an omega coefficient value of 0.891.

Discussion

This study aimed to conduct a cross-cultural adaptation and collect validity evidence for the IFDFW scale in Indonesia. Through this process, we successfully developed an Indonesian version of the scale. We gathered several types of validity evidence, including evidence based on test content, response processes, internal structure, and relationships with other variables.

Based on the research results obtained through statistical analysis, this study successfully collected initial evidence of validity for the Indonesian version of the IFDFW scale. The scale demonstrated good content validity, with an overall Aiken's V coefficient value of 0.6875. This result is considered acceptable, especially given the stringent nature of the expert panel's judgement and the limited number of raters involved in the assessment ($N = 5$). As the number of raters decreases, the threshold for obtaining a high Aiken's V becomes statistically more demanding. According to (Koestoro & Basrowi, 2006), the achieved coefficient indicates a high level of content validity for the scale as a whole.

Furthermore, a detailed item-level analysis showed that the majority of items (FWB 2 - FWB 8) achieved high content validity (range of Aiken's V coefficient value: 0.625 - 0.825). Only one item (FWB 1) obtained a sufficient, yet lower, validity coefficient ($V = 0.5$). The overall evidence thus suggests that the Indonesian version of the IFDFW scale possesses adequate content validity for the constructs being measured.

Second, the statistical analysis for validity evidence based on the response process showed an FVI value of 0.883 across all scales. This value is acceptable because, with the same scheme of the number of raters using the online survey method, an acceptable FVI value is at least 0.80 (Yusoff, 2019). Thus, the Indonesian version of the IFDFW scale has adequate clarity and comprehensibility of instruction and language.

Third, the confirmatory factor analysis (CFA) for the internal structure revealed an initial misfit of the unidimensional model (RMSEA = 0.123; TLI = 0.892), indicating that the single latent factor did not adequately account for all observed relationships. The need for CFA model modification is common and often based on substantive considerations derived from modification indices (Kline, 2023).

To achieve a satisfactory fit, we introduced modifications by correlating the error covariances between three pairs of items (FWB 8 & FWB 1; FWB 7 & FWB 1; FWB 3 & FWB 2). This decision was primarily based on semantic similarity and the likelihood of local dependence, suggesting that the shared variance between these item pairs is due to an external common cause or method effect, rather than being exclusively attributed to the financial well-being factor. For instance, the correlated errors between FWB 8 and FWB 1 may indicate that their similar wording prompted participants to respond similarly to both items, leading to measurement error covariance.

The final model, after these modifications, showed a satisfactory fit ($\chi^2 (17) = 32.162$, $p = 0.0144$; RMSEA = 0.077; SRMR = 0.038; CFI = 0.974; TLI = 0.957). The factor loadings ranged from 0.846 (std. estimate ≥ 0.50), with item-item FWB 3 ("Bagaimana perasaan Anda mengenai kondisi keuangan Anda saat ini?") demonstrating the highest loading (0.846), suggesting it is the strongest indicator of financial well-being in the Indonesian context. Qualitatively, this high discrimination power suggests that the direct measurement of subjective emotional state is the most reliable proxy for the underlying latent construct, aligning perfectly with the scale's foundation in subjective well-being theory.

However, the inclusion of correlated errors, while improving fit indices, introduces a risk of model overfitting, where the model aligns too closely with the sample data's idiosyncratic features. This practice must be approached with caution as it can slightly compromise the model's generalizability to new samples. Therefore, the correlated errors were retained only because they possessed a strong theoretical justification (i.e., known semantic overlap in the original item set). For future research and practical application, users should be aware that these residual correlations suggest a degree of item redundancy or shared method variance. A cautionary note is necessary: researchers may consider examining these items further, perhaps by rephrasing or excluding them, to achieve a cleaner factor structure that is less dependent on error correlation adjustments.

The unidimensional factor structure and the high factor loadings observed in our study are consistent with findings from other international adaptation studies (Carvalho et al., 2021; El Zouki et al., 2025; Kamaluddin et al., 2018; Kim et al., 2025). This consistency across different cultures provides strong evidence that the IFDFW scale is a reliable and universally applicable measure of financial well-being.

The results of the MIMIC model analysis at the construct level show that income status is significantly related to financial well-being. Individuals with a fixed income tend to have higher financial well-being scores than those with a non-fixed income. According to (Wahyuni et al., 2024), a fixed income is a crucial foundation for fostering healthy financial behaviour and achieving long-term financial well-being. Individuals with fixed incomes tend to have greater flexibility in financial allocation. This issue can be a factor that leads individuals with fixed incomes to tend to score higher than those with non-fixed incomes on financial well-being measurements.

Meanwhile, the results of the MIMIC model analysis at the item level indicate DIF in one item of the Indonesian version of the IFDFW scale, specifically in item FWB 4, which reads, "How often do you feel worried about not being able to meet monthly living expenses as usual?" In item FWB 4, male participants scored higher than female participants with a statement. This finding

is in line with the results of a literature review related to financial anxiety by (Ahamed & Limbu, 2024), which states that the majority of women experience financial anxiety than men. Based on this, where there is a difference in the level of financial anxiety felt by men and women, the author assumes that men and women respond differently to the four items detected as DIF.

Statistical analysis for validity evidence based on relationships with other variables shows a significant Spearman correlation test coefficient value ($p < .05$) between financial well-being and subjective perception, financial behaviour, and financial satisfaction. This matter means that the unidimensional construct of the Indonesian version of the IFDFW scale correlates with each dimension of the Indonesian version of the Personal Financial Wellness Questionnaire.

While there are no universally accepted guidelines for an adequate level of omega reliability, both hierarchical and total omega coefficients should minimally exceed 0.50, with values closer to 0.75 being preferable (Reise et al., 2013). Therefore, the reliability value obtained for the Indonesian version of the IFDFW scale is considered acceptable. The high internal consistency of this scale indicates that each of its items works in harmony to measure the same construct. This result confirms that the instrument is not only valid but also provides stable and reliable results for future research.

The dominance of individuals from the middle economic class is a limitation in this study. This inequality in participant composition may limit the generalizability of research findings to a broader population, particularly among individuals from lower- and upper-socioeconomic classes. The conditions, perceptions, and challenges faced by each group exhibit significant variations, so these findings do not fully represent the diversity of financial well-being across all groups in society. Based on the limitations of the study, future research can enhance external validity and broaden the scope of understanding financial well-being by using a more socio-economically diverse sample. The involvement of individuals from diverse socioeconomic backgrounds, including those from lower and upper economic classes, will facilitate a more comprehensive analysis of the impact of economic background on financial well-being.

CONCLUSION

Overall, after adapting the IFDFW scale into an Indonesian version that takes into account language and culture, and after collecting validity evidence from four sources, the unidimensional scale results in 8 items that have a fit model in accordance with empirical data, accompanied by factor loadings above the cut-off criteria value (> 0.4). Therefore, this scale can be used and accepted as a valid and reliable instrument to measure financial well-being among working participants from the Indonesian population with an age range of 20-50 years. Although there is one item (FWB 4) that indicates DIF, differential item performance does not always indicate defects or weaknesses in measurement. Items with the same attributes can exhibit different functions among covariates or groups of individuals with the same score.

Through the adaptation study conducted, the IFDFW scale can be used with the Indonesian version. Managerial implications should focus on determining intervention strategies that have a significant positive effect on financial well-being based on the measurement results. Stakeholders can utilize this scale to gain a deeper understanding of financial well-being within a broader context and focus on strategies to enhance it. Some interventions that can be implemented include financial education, financial counselling, and financial advice to enhance the level of financial well-being through positive financial behaviours among individuals (Brüggen et al., 2017). Financial perception and knowledge also have a role in creating financial well-being through positive financial behaviours (Fan & Henager, 2022). Scale users can use these strategies to follow up on the results

of data analysis later.

This study makes a meaningful contribution to the development of financial well-being research in Indonesia. Methodologically, the collection of validity evidence obtained from four sources using statistical analysis of Aiken's V formula, FVI, confirmatory factor analysis (CFA) with covariate or multiple indicator multiple causes (MIMIC) model, and Spearman correlation test conducted in this study also contributed to providing the psychometric properties of the Indonesian version of the IFDFW scale. In line with research conducted by (Carvalho et al., 2021; Kamaluddin et al., 2018), this study provides empirical evidence regarding the good validity and reliability of the IFDFW scale. Thus, this study can be the basis for measuring financial well-being variables in Indonesia and can become the basis for developing research related to financial well-being in Indonesia.

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