

Construct Validity of The Values in Action Inventory Strengths-Revised (VIA IS-R) Instrument Among College Students: A Confirmatory Factor Analysis (CFA) Approach

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ABSTRACT

Character strengths are essential psychological resources that support students' resilience, adjustment, well-being, and academic performance. However, the construct validity of the Indonesian version of the Values in Action Inventory of Strengths-Revised (VIA-IS-R) has not been formally established among university students. This study aimed to validate its three-factor structure—Inquisitiveness, Caring, and Self-Control—and assess its internal consistency. A quantitative psychometric design was employed involving 425 university students from the Special Region of Yogyakarta, Indonesia, recruited through convenience sampling. The 192-item instrument was adapted through forward translation, reconciliation, backward translation, expert review, harmonization, pretesting, and cognitive debriefing. Data were analyzed using confirmatory factor analysis (CFA) with the lavaan package in RStudio, while reliability was assessed using McDonald's omega. The model demonstrated excellent fit: $\chi^2(249) = 274.542$, $\chi^2/df = 1.102$, $p = .128$, RMSEA = .016, CFI = .995, and SRMR = .031. All 24 first-order character-strength indicators demonstrated acceptable standardized factor loadings ranging from .595 to .856. Reliability was high for Inquisitiveness ($\omega = .932$), Caring ($\omega = .902$), and Self-Control ($\omega = .857$), with an overall reliability coefficient of .967. These findings confirm that the Indonesian VIA-IS-R is a valid, reliable, and psychometrically robust instrument for assessing character strengths among Indonesian university students and supporting strengths-based educational interventions and counseling practices.

INTRODUCTION

Character is a moral and ethical foundation that consistently shapes human cognition, affect, and behavior (Berkowitz, 2011; Lickona, 1991). Within the positive psychology paradigm, Peterson and Seligman (2004) expanded this concept by introducing “character strengths,” conceptualized as 24 positive psychological traits that promote optimal human flourishing, resilience, and well-being (Niemi, 2018). Empirical evidence suggests that the development of character strengths significantly predicts life satisfaction, work productivity, organizational citizenship behavior, and psychological well-being across various occupational sectors (Bakker et al., 2018; Heintz & Ruch, 2019; Wagner et al., 2019).

Peterson and Seligman (2004) initially developed the 240-item Values in Action Inventory of Strengths (VIA-IS) based on a theoretical model consisting of six virtues. Despite its widespread adoption, the original VIA-IS has received substantial psychometric criticism.

McGrath and Wallace (2019) highlighted several structural limitations, including excessive item length, potential acquiescence bias resulting from the exclusive use of positively keyed items (Paulhus, 1991), the absence of explicit virtue measures, and limited transparency regarding the item-selection protocol. In response, McGrath (2014) developed the Values in Action Inventory of Strengths-Revised (VIA-IS-R). This psychometrically optimized 192-item instrument incorporates reverse-keyed items and establishes an empirically derived three-factor virtue structure comprising Inquisitiveness, Caring, and Self-Control (McGrath & Wallace, 2019; Perez, 2023).

Despite the psychometric strengths and cross-cultural relevance of the VIA-IS-R, a crucial empirical gap remains. In the academic context, the assessment of character strengths is particularly important when applied to student populations. Students are in the emerging adulthood developmental phase, a critical transition period characterized by identity exploration, academic adaptation demands, and vulnerability to stress (Arnett, 2016). Global empirical evidence indicates that students who recognize and optimize their character strengths demonstrate higher academic resilience, better college adjustment, and improved academic performance, including grade point average (GPA) outcomes (Lounsbury et al., 2009; Tang et al., 2019). Furthermore, mastery of dimensions such as Self-Control and Inquisitiveness has been identified as a strong protective factor against procrastination and academic burnout (Park et al., 2020).

However, formal structural testing to confirm the construct validity of the Indonesian version of the VIA-IS-R among student populations has not yet been conducted. The VIA-IS-R was developed by McGrath and Wallace (2019) for adults aged ≥ 18 years. Existing character-strength instruments in Indonesia are generally limited to brief 24-item scales that cannot comprehensively assess individual character strengths (e.g., Hanim, 2022) or non-standardized instruments developed independently without rigorous confirmatory validation (e.g., Garvin, 2020). This measurement gap limits researchers and practitioners, particularly in guidance and counseling and higher education contexts, from utilizing empirically validated strengths-based diagnostic tools, resulting in continued reliance on deficit-based paradigms. Therefore, empirical testing is essential to ensure that the theoretical structure of measurement instruments remains stable when applied to different populations and produces credible and accountable data (Boateng et al., 2018; Hawkins et al., 2020).

To address this gap, this study aimed to confirm the factor structure and conduct psychometric validation of the Indonesian version of the Values in Action Inventory of Strengths-Revised (VIA-IS-R) among university students. Using a confirmatory factor analysis (CFA) approach, this study specifically examined the goodness-of-fit of the empirical three-factor model of virtues (Inquisitiveness, Caring, and Self-Control) proposed by McGrath and Wallace (2019) within the context of Indonesian university students. With authorization from the VIA Institute on Character and the Character Research Laboratory at Fairleigh Dickinson University, this empirical validation was essential for determining whether the psychometric parameters, internal reliability, and factor loadings of the 192-item instrument demonstrated adequate measurement stability.

METHOD

Research Design and Participants

This quantitative psychometric study focused on validating the VIA-IS-R instrument. The sample consisted of 425 university students from the Special Region of Yogyakarta (DIY), Indonesia. Participants were recruited using a convenience sampling technique through direct invitations and online questionnaires distributed via WhatsApp. The sample size ($N = 425$) met the recommended criteria for parameter stability in structural model analysis (Comrey & Lee, 1992; Hair et al., 2019; Kline, 2016).

Translation Instruments and Procedures

The instrument evaluated was the Indonesian version of *the Values in Action Inventory of Strengths-Revised (VIA-IS-R)*, which measures three second-order virtue factors: *Inquisitiveness* (11 character strengths), *Caring* (8 character strengths), and *Self-Control* (5 character strengths), with a total of 24 specific character strengths as first-order factors (McGrath & Wallace, 2019).

The cross-cultural adaptation procedure was approved by the *Character Research Laboratory* at *Fairleigh Dickinson University* (FDU) and followed Wild et al.'s (2005) protocol, which included five systematic stages: 1) *Forward Translation & Reconciliation*: Translation by a team of bilingual experts into a single initial draft. 2) *Backward Translation*: Translation back into English to ensure conceptual consistency. 3) *Review & Harmonization*: Evaluation of the draft by a multidisciplinary expert committee for cultural equivalency. 4) *Pretesting & Cognitive Debriefing*: Readability pilot testing on 10 respondents before finalizing the instrument.

Data was collected through *Google Forms* with mandatory fields to prevent *missing data*. Data cleaning was performed to eliminate duplicate responses or bias (*straight-lining*). Participation was voluntary, anonymous, and data confidentiality was strictly maintained through aggregate analysis (American Psychological Association, 2017).

Data analysis

Statistical computations were performed using the R program (RStudio):

1. Construct Validity: Evaluated by *Confirmatory Factor Analysis* (CFA) using the *lavaan* package. The model was assessed based on the *goodness-of-fit criteria* : X^2/df , $p > 0.05$, $RMSEA \leq 0.08$, $CFI \geq 0.90$, $TLI \geq 0.90$, and $SRMR \leq 0.08$. The standardized factor loadings are required to be ≥ 0.50 (Hair et al., 2010).
2. Reliability: Internal consistency was tested through *Composite Reliability* (CR) with McDonald's Omega coefficient (ω). Omega was chosen because it provides a more accurate estimate than Cronbach's Alpha in the reflective model (Dunn et al., 2014; McDonald, 1999; McNeish, 2018), using a minimum threshold of ≥ 0.70 . (DeVellis, 2017).

RESULTS AND DISCUSSION

Instrument Translation Process

The translation process of the VIA-IS-R instrument (192 items) into the Indonesian version was conducted in accordance with the FDU Character Research Laboratory guidelines and the five-stage protocol of Wild et al. (2005). *The forward translation*, reconciliation, and *backward translation stages* successfully established high semantic equivalence. Review and harmonization by a multidisciplinary expert panel ensured compatibility with the target culture.

The results of pretesting *and* cognitive *debriefing* on 10 participants showed an average completion time of between 20–30 minutes. Minor item ambiguities discovered during the interviews were immediately revised through expert consensus to produce a final draft ready for distribution.

Construct Validity and Model Fit

The results of the confirmatory factor analysis (CFA) for the Indonesian version of the *VIA Inventory of Strengths-Revised (VIA-IS-R) adaptation instrument* show that the three *VIA-IS-R* factors, namely *Inquisitiveness*, *Caring*, and *Self-Control*, have a good fit with the empirical data. The chi-square value of 274.542 with 249 degrees of freedom (df) produces a *chi-square ratio* per degree of freedom (X^2/df) of approximately 1.102, which is below the threshold of 2, indicating that the model is not significantly different from the observed data. The p-value of 0.128, which is greater than 0.05, confirms that the model is not statistically rejected, thus supporting the hypothesis that the model fits the data.

Other fit indices also demonstrated satisfactory performance. The *Root Mean Square Error of Approximation* (RMSEA) value of 0.016 was well below the threshold of 0.08, indicating excellent model fit with a low level of approximation error. *The Comparative Fit Index* (CFI) of 0.995, which exceeded the threshold of 0.90, indicated that the model was able to explain a high proportion of the variance in the data. *The Standardized Root Mean Square Residual* (SRMR) of 0.031, which was below 0.08, confirmed that the standardized residuals between the observed covariance matrix and the covariance matrix predicted by the model were relatively small, thus the model was acceptable as an accurate representation of the instrument's factor structure.

Table 1. Fit Results of the VIA-IS-R Instrument Model

Criteria	Achievements	Standard	Information
Chi-square	274.54247141	$X^2/df < 2$	Fit Model
Df	249,000,000,000	$X^2/df < 2$	Fit Model
p-value	0.12771322	> 0.05	Fit Model
RSMEA	0.01553593	< 0.08	Fit Model
CFI	0.99506736	> 0.9	Fit Model
SRMR	0.03070182	< 0.08	Fit Model

As for the factor loading, all indicators have a loading score ≥ 0.5 , so this Indonesian version of the *VIA-IS-R* adaptation instrument has high construct validity and is statistically acceptable. All indicators show adequate ability in measuring the constructs that should be, namely the three character virtue factors: *Inquisitiveness*, *Caring*, and *Self-Control*.

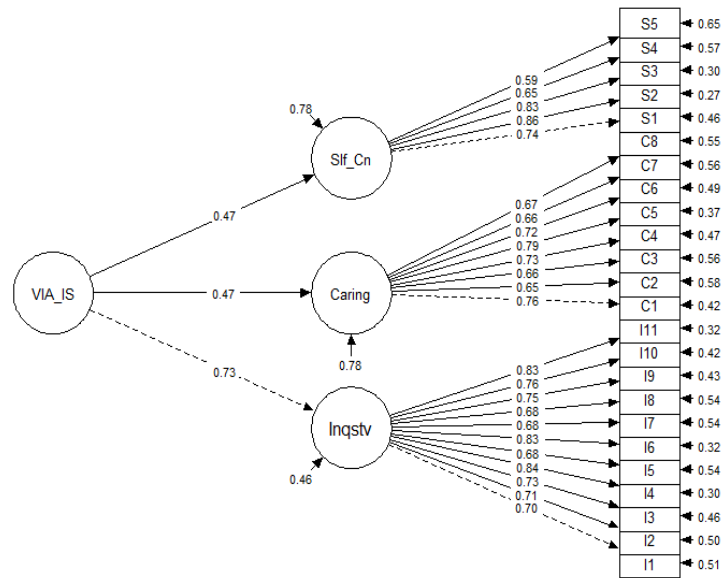


Figure 1. VIA-IS-R Instrument Plot

Table 2. Construct Validity Results (*Loading Factor*) of the VIA-IS-R Adaptation Instrument

Factor	Indicator	Construct Validity (<i>Loading Factor</i>)	Information
Inquisitiveness (I)	Creativity (I1)	0.702	Valid
	Leadership (I2)	0.710	Valid
	Bravery (I3)	0.734	Valid
	Curiosity (I4)	0.837	Valid
	Humility (I5)	0.681	Valid
	Perspective (I6)	0.828	Valid
	Social Intelligence (I7)	0.678	Valid
	Zest (I8)	0.678	Valid
	Learning (I9)	0.753	Valid
	Humor (I10)	0.761	Valid
	Beauty (I11)	0.827	Valid
Caring (C)	Forgiveness (C1)	0.765	Valid
	Fairness (C2)	0.647	Valid
	Gratitude (C3)	0.661	Valid
	Spirituality (C4)	0.725	Valid
	Love (C5)	0.791	Valid
	Kindness (C6)	0.715	Valid
	Teamwork (C7)	0.660	Valid
Self Control (S)	Hope (C8)	0.672	Valid
	Prudence (S1)	0.736	Valid
	Judgment (S2)	0.856	Valid
	Self Regulation (S3)	0.834	Valid
	Perseverance (S4)	0.653	Valid
	Honesty (S5)	0.595	Valid

Reliability Analysis

Reliability testing was conducted to ensure that the indicators measuring each latent construct (factor) in the model have adequate internal consistency. The Inquisitiveness factor has an omega score of 0.93217, Caring has an omega score of 0.90203 while Self Control (CR) is 0.85713 based on DeVellis's (2017) category for values between 0.80 and 0.89. The results of the CR calculation for each factor (*Inquisitiveness, Caring, and Self Control*) and the overall CR are presented in the following table:

Table 3. Reliability Estimates of the VIA-IS-R Adaptation Instrument

Factor	Indicator	Standard Error	Loading Factor	Composite Reliability (Omega) of each Factor	Composite Reliability (Omega) of the overall instrument
Inquisitiveness (I)	Creativity (I1)	0.51	0.702	0.93217	0.96660301
	Leadership (I2)	0.5	0.71		
	Bravery (I3)	0.46	0.734		
	Curiosity (I4)	0.3	0.837		
	Humility (I5)	0.54	0.681		
	Perspective (I6)	0.32	0.828		
	Social Intelligence (I7)	0.54	0.678		
	Zest (I8)	0.54	0.678		
	Learning (I9)	0.43	0.753		
	Humor (I10)	0.42	0.761		
	Beauty (I11)	0.32	0.827		
Caring (C)	Forgiveness (C1)	0.42	0.765	0.90203	
	Fairness (C2)	0.58	0.647		
	Gratitude (C3)	0.56	0.661		
	Spirituality (C4)	0.47	0.725		
	Love (C5)	0.37	0.791		
	Kindness (C6)	0.49	0.715		
	Teamwork (C7)	0.56	0.66		
	Hope (C8)	0.55	0.672		
Self Control (S)	Prudence (S1)	0.46	0.736	0.85713	
	Judgment (S2)	0.27	0.856		
	Self Regulation (S3)	0.3	0.834		
	Perseverance (S4)	0.57	0.653		
	Honesty (S5)	0.65	0.595		

CONCLUSION

This study successfully achieved its objective of confirming the factorial structure of the Indonesian version of the Values in Action Inventory of Strengths-Revised (VIA-IS-R) instrument using confirmatory factor analysis (CFA). The CFA results demonstrated that the three-factor model of higher-order virtues, namely Inquisitiveness, Caring, and Self-Control, showed excellent goodness-of-fit with the empirical data from Indonesian university students ($\chi^2/df = 1.102$, RMSEA = 0.016, CFI = 0.995, SRMR = 0.031).

This validation confirmed that the original theoretical structure proposed by McGrath and Wallace (2019) was stable and could be replicated without requiring substantial model modification or the removal of indicators. All 24 character strengths as first-order factors demonstrated acceptable validity with significant factor loadings (≥ 0.50) and showed high internal consistency ($\omega = 0.967$). Therefore, the CFA results provided empirical evidence that the Indonesian version of the VIA-IS-R is a valid, reliable, and psychometrically robust instrument for assessing character-strength profiles among university students in Indonesia.

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