Validity Evidence of the Persevering Hope Scale: Internal Structure and Flourishing Relationship in Adolescents

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Abstract. In recent years, validity and relevance of psychological measurement tools have become a major concern. A psychological construct used to report the importance of accurate measurement is persevering hope in the face of uncertainty and adversity. Therefore, this research aimed to adapt the Persevering Hope Scale into the Indonesian language and examine validity evidence based on relationship with flourishing among adolescents in the Greater Jakarta area. A quantitative method was adopted with a cross-sectional design, and 924 adolescents were selected using convenience sampling. Confirmatory Factor Analysis (CFA) with AMOS used to assess validity and reliability of the instrument, as well as Spearman correlation analysis to examine relationship between persevering hope and flourishing. The CFA results showed that only 4 out of the original 15 items reported a good model fit for the Indonesian population (CFI = 1.000; RMSEA = .000). Additionally, scale suggested good reliability, with a Composite Reliability (CR) of .833 and an Average Variance Extracted (AVE) of .56. Bollen-Stine Bootstrap testing was carried out since the data did not meet the assumption of multivariate normality, obtaining a p-value of .441 (p > .05) as an acceptable model. Spearman correlation analysis reported a significant positive relationship between persevering hope and flourishing (r = .510, p < .01). These results suggested that higher levels of persevering hope and flourishing among adolescents were directly related. The implications report the importance of developing interventions to enhance persevering hope as a method to support adolescent mental well-being.

Keywords: adolescents, CFA, flourishing, persevering hope, scale validity

Bukti Validitas *Persevering Hope Scale*: Struktur Internal dan Hubungannya dengan *Flourishing* pada Remaja

Abstract. Dalam beberapa tahun terakhir, validitas dan relevansi alat ukur psikologis menjadi perhatian penting dalam penelitian. Salah satu konstruk psikologis yang menunjukkan urgensi akan pengukuran yang akurat adalah *persevering hope* -sebuah bentuk harapan yang bertahan dalam kondisi ketidakpastian dan kesulitan. Penelitian ini bertujuan untuk mengadaptasi Persevering Hope Scale ke dalam Bahasa Indonesia serta menguji bukti validitasnya berdasarkan struktur internal dan hubungannya dengan *flourishing* pada remaja di Jabodetabek. Metode kuantitatif digunakan dengan desain *cross-sectional*. Sebanyak 924 partisipan remaja dipilih melalui *convenience sampling*. Confirmatory Factor Analysis (CFA) dengan AMOS digunakan untuk menguji validitas dan reliabilitas alat ukur, serta uji korelasi Spearman untuk melihat hubungan antara *persevering hope* dan *flourishing*. Hasil CFA menunjukkan bahwa dari 15 item skala asli, hanya 4 item yang memiliki model fit dengan data populasi Indonesia (CFI = 1.000; RMSEA = .000). Selain itu, nilai reliabilitas Composite Reliability (CR = .833) dan Average Variance Extracted (AVE = .56) menunjukkan bahwa skala ini reliabel dan valid. Pengujian Bollen-Stine Bootstrap dilakukan karena data tidak memenuhi asumsi normalitas multivariat, dengan hasil p = .441 (p > .05) yang menunjukkan model dapat diterima. Uji korelasi Spearman menunjukkan bahwa *persevering hope* memiliki hubungan positif yang signifikan dengan *flourishing* (r = .510, p < .01). Temuan ini menunjukkan bahwa semakin tinggi *persevering hope*, semakin tinggi pula tingkat *flourishing* pada remaja. Implikasi dari penelitian ini adalah pentingnya pengembangan intervensi untuk meningkatkan *persevering hope* guna mendukung kesejahteraan mental remaja.

Kata Kunci: CFA, flourishing, persevering hope, remaja, validitas alat ukur

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In recent years, validity and relevance of psychological measurement tools have become a major concern. A psychological construct used to report the importance of accurate measurement is persevering hope, which persists in the face of uncertainty and adversity (Rueger et al., 2023). This concept was developed in response to the limitations of previous hope measurement tools. The Snyder Hope Scale overemphasizes cognitive aspects such as agency and pathways thinking (Snyder, 2002; Snyder et al., 1991) but underemphasizes emotional dimensions and broader cultural contexts (van den Heuvel, 2020; Milona, 2020). In addition, a systematic review by Redlich-Amirav et al. (2018) stated that many hope measurement tools failed to meet standards for cross-cultural validity and consistency of factor structure. In the Indonesian context, efforts to adapt psychological measurement tools should consider cultural sensitivity to ensure results are interpreted legitimately (Silfiasari, 2024). Therefore, more contextual and comprehensive hope measurement tools should be adapted and examined. A method used is validity testing through Confirmatory Factor Analysis (CFA) and analysis of relationships with other constructs, such as flourishing, to support validity arguments (Nurcahyo & Valentina, 2024). This shows the urgent need to explore persevering hope as an alternative concept applicable to the Indonesian adolescent population.

An argument-based validity method is adopted in instrument adaptation processes, particularly in the evolving context of cross-cultural psychology with increasing attention to psychological measurement tools (Borsboom, 2017). Validity is no longer understood simply as the fit of scores to constructs, but the accumulation of evidence supporting the interpretation of test results in specific contexts (Knekta et al., 2019). In this framework, internal structure analysis through CFA and testing of construct relationships are crucial elements in the development and adaptation of measurement tools (Flake & Fried, 2020). Moreover, adaptations of Persevering Hope Scale should consider local dynamics to ensure that the measurement accurately represents the experiences of Indonesian adolescents coping with social and emotional stress (Alston & Rick, 2021).

In psychological interventions, various research have shown that persevering hope is significantly associated with other mental health indicators, including reduced anxiety symptoms and increased long-term optimism (Czy¿owska, 2021; Leite et al., 2019). According to Hong & Walker (2015), adolescents with persistent hope tend to show higher resilience and more stable academic engagement in the face of challenging situations. The measures of persevering hope have been connected to reflective capacity and a deeper sense of meaning in religious and non-religious individuals (Sharma, 2019). This suggests that persevering hope is relevant within the framework of positive psychology and is an

important indicator in modern clinical psychology and spirituality methods.

Redlich-Amirav et al. (2018) showed that most hope scale, such as the Snyder Hope Scale and the Herth Hope Index, have significant limitations in terms of conceptual validity, measurement accuracy, and cross-cultural applicability. Additionally, Feldman and Jazaieri (2024) introduced trait-based emotion hope, emphasizing that hope was a cognitive process and included deep emotional aspects relevant to facing uncertainty. In the Indonesian cultural context, Silfiasari (2024) reported that a valid and reliable hope measurement tool could be developed in local populations, with strong CFA and reliability results (CFI = .94; α = .90). These results reinforce the urgency to explore and develop new methods for measuring hope scale that is more contextual and comprehensive. Currently, there has been further development, and the latest concept, known as persevering hope, overcomes the limitations of applying the idea (Rueger et al., 2023). Persevering hope is defined as an innate motivational character that drives persistence when desired goals appear unattainable or highly improbable (Rueger et al., 2023).

As an illustration of the distinction between goal-oriented hope and perseverance, the new concept can be explained as follows, goal-oriented hope leads to the thought "I can do this!" (agency thinking), followed by the "I will find a way to do this!" (pathway thinking). Meanwhile, perseverance leads to the thought

"I can do this and will keep going, regardless of the outcome!" The concept drives the desire to persist until the end, regardless of the outcome (Rueger et al., 2023). Only two research have been conducted on perseverance, and none in Indonesia (Rose, 2022; Rueger et al., 2023). The results did not adapt the Persevering Hope Scale to the Indonesian context and connect the concept to flourishing in adolescents.

Based on the description, this research aims to adapt the Persevering Hope Scale into the Indonesian language and test validity based on internal structure and relationship with flourishing in adolescents in Greater Jakarta. Validity should be tested based on relationship with other variables in the context of proving the adaptation of the measuring instrument and exploring the method to improve flourishing in adolescents in Greater Jakarta. The results of a significant correlation between Persevering Hope and Flourishing scores provide validity evidence based on relationship with other variables, which strengthens the justification for interpreting the Persevering Hope Scale scores in the context of Indonesian adolescents. Therefore, the hypotheses to be answered in this research consist of the following (1) H1: The internal structure of the Indonesian language adaptation version of the Persevering Hope Scale meets a good measurement model through CFA analysis, (2) H2: Persevering Hope Scale has a significant positive relationship with Flourishing, which shows validity evidence based on relationship with other variables.

Method

This research was subjected to an ethical review by the Ethics Committee of the Institute for Research and Community Service (LPPM) at Pelita Harapan University and was approved for implementation, with decision number 143/LPPM-UPH/VII/2024. Participants were informed that the survey responses would be anonymous and used for data analysis and reporting purposes. This research aimed to adapt the Persevering Hope Scale into Indonesian and test validity based on internal structure and relationship with flourishing in adolescents in Greater Jakarta. A non-experimental quantitative method was used to test the statistical validity of evidence. Quantitative data measurement was also conducted using statistical analysis of the sample data. Meanwhile, data collection was performed using a self-report questionnaire, where participants were asked to respond to the statements included.

The convenience sampling method was used, and the required sample size was measured using G-Power. Furthermore, the minimum number of participants needed was 119. The CFA method was used for validation since the persevering hope measurement tool was adapted from abroad and translated into the Indonesian language. The method required a minimum of 200 or more than 300 participants. This convenience sampling method was used to facilitate data collection online through Google Forms. The process included the distribution of questionnaires based on participant characteristics at schools, personal contacts, and social media. The participants were school and university students aged 15-17 and 18-20 residing in Greater Jakarta. The justification for selecting the population was that bullying cases occurred among school and university students, with several incidents reported in large cities. Data collection was conducted from July 24 to October 3, 2024, including a total of 924 participants who met the criteria in Table 1.

Table 1

Demographic Characteristics

Characteristics	*n*	%
Gender		
Male	280	30.3
Female	644	69.7
Age		
15 – 17 years	535	57.9
18 – 20 years	389	42.1
Education Level		
10th Grade of High School	159	16.9
11th Grade of High School	128	13.6
12th Grade of High School	260	27.6
College	396	42
Domicile		
Jakarta	197	21.3
Bogor	45	4.9
Depok	6	.6
Tangerang	602	65.2
Bekasi	74	8.0

Research procedures

This research was susceptible to common method bias, which influenced the results of the self-report questionnaire and cross-sectional analysis (Podsakoff et al., 2003). The order of each measurement scale was randomized with distractor items to ensure the respondents answered the questionnaire with focus. The participants who completed the questionnaire on-site at school and online received souvenir prizes and digital currency balances, respectively. Participants interested in receiving prizes while completing the online questionnaire provided a contact number for further communication. Subsequently, data cleaning and elimination were conducted to remove ineligible data that did not pass the distractor item screening.

Measurement

This research used instruments obtained from journals and published for general access. The flourishing variable was measured through the Indonesian language version published by Nurcahyo and Valentina (2024). The persevering hope variable used scale from (Rueger et al., 2023), which was adapted into the Indonesian language under the rules of Beaton et al. (2000), including a back-translation stage. This analysis comprised a qualitative review of the adapted measurement instruments and a pilot test with 30 participants. Furthermore, the data were processed for reliability using SPSS version 23 to determine the corrected item-total correlation, with a minimum expected score of .30. According to Garvin (2018), items with a corrected item-total correlation value above .30 were

considered appropriate or good, differentiating between high- and low-scoring individuals. The items were subjected to a testing process before data collection. The CFA method was carried out to ensure that the adapted measuring instrument met the model fit criteria for valid use in field data.

Flourishing

Flourishing was measured using the Flourishing Scale (FS), an 8-item instrument designed to capture respondents' perceptions of success in key areas, such as relationship, life goals, and self-esteem (Diener et al., 2010). Each item was rated on a 1-5 Likert scale, ranging from "strongly disagree" (1) to "strongly agree" (5). This scale reported good reliability and validity based on previous research (Nurcahyo & Valentina, 2024). A Cronbach's alpha of .831 was obtained for all 8 items, and each item had an item-total correlation value above .30, as shown in Table 2.

Table 2

Reliability Results of the FS (Nurcahyo & Valentina, 2024) from Field Data

Item	Corrected Item Total Correlation	Cronbach's Alpha if Item Deleted
1. I live a life with purpose and meaning.	.623	.803
2. My social relationships provide support and satisfaction.	.565	.810
3. I feel connected and interested in my daily activities.	.610	.805
4. I actively help others achieve happiness and well-being.	.475	822
5. I have skills and feel capable of carrying out activities that I consider important.	.559	.811
6. I am a good person and live a good life.	.596	.806
7. I am optimistic about my future.	.560	.812
8. People respect me.	.472	.822

Note. α = .831 for all items.

Persevering hope

The Persevering Hope Scale was a four-item instrument used to measure persevering hope. Each item was rated on a 1-5 Likert scale, ranging from "strongly disagree" (1) to "strongly agree" (5). Moreover, the item was first proposed by Rueger et al. (2023), and represented a development of the theory of hope, shifting from focusing on goals from the cognitive side to a theory transcending goals.

The new theory explained that persevering hope was a motivational characteristic that persisted when desired goals were unattainable, impossible, or difficult to achieve. Sandra and colleagues initially designed scale as a unidimensional scale with 15 items. However, only four items were obtained after CFA. Table 3 shows the 15-item version of the persevering hope scale and the final 4-item version compiled by Rueger et al. (2023).

Table 3

Persevering Hope Scale by Rueger et al. (2023)

PSH Items
"When an outcome I desire seems uncertain or unlikely, I ..."
1. Stick with my desire for the positive outcome.
2. Refuse to quit.
3. Decide not to waste more energy. (-)
4. Hold on to the desire anyway.
5. Give up. (-).
6. Look for new ways to reach a positive future.
7. Fail to act. (-)
8. Keep reminding myself that there is always a chance.
9. Do whatever it takes.
10. I am determined to see things through to the end.
11. Lost my motivation to carry on. (-)
12. Can get through the hard things in life.
13. Will keep trying.
14. Won't give up.
15. I am motivated to wait for a successful outcome.

Note. Items in bold are the final 4 items version.

Before developing the Indonesian language version of the Persevering Hope Scale, the instrument was translated into the Indonesian language and back-translated into English. All items were re-assessed by three subject matter experts to ensure content validity. Table 4 shows the Indonesian language version of the Persevering Hope Scale.

Table 4

Persevering Hope Scale Indonesian Version

PSH Items
"Ketika hasil yang saya inginkan tampaknya tidak pasti atau bahkan tidak mungkin terjadi, maka saya...
1. ...tetap berpegang pada keinginan saya untuk mencapai hasil yang positif.
2. ...menolak untuk berhenti.
3. ...memutuskan untuk tidak membuang lebih banyak energi. (-)
4. ...tetap mempertahankan keinginan saya.
5. ...menyerah. (-)
6. ...mencari cara baru untuk mencapai masa depan yang lebih positif.
7. ...merasa tidak perlu melakukan apa pun. (-)
8. ...senantiasa mengingatkan pada diri saya bahwa kesempatan tetap terbuka.
9. ...melakukan apapun yang dibutuhkan.
10. ...meneguhkan diri untuk melihat sesuatu hingga akhir.
11. ...kehilangan motivasi untuk melanjutkan. (-)
12. ...dapat melewati masa sulit dalam kehidupan.
13. ...akan terus mencoba.
14. ...tidak akan menyerah.
15. ...termotivasi untuk menunggu hasil yang sukses.

This Indonesian language version of the Persevering Hope Scale was tested using field data to determine the construct validity, analyzed through CFA.

Data analysis

In this research, validity method used followed the concept of argument-based validity (AERA et al., 2014), which was viewed as a justification for score interpretation. The focus was on two of the five validity criteria, namely internal structure and correlation with other variables.

The data analyses conducted were 1) CFA analysis using AMOS version 23 software for the Persevering Hope Scale adaptation measurement tool, and 2) correlation analysis with flourishing to test validity based on relationships with other variables. Even though this research used internal structure and correlation with other variables, the analyses were conducted within the same framework as part of the argument-based validity method to support the interpretation of Persevering Hope Scale scores. A goodness-of-fit test was conducted as part of the CFA to determine the adequacy of the developed theoretical model's fit with the field data. The criteria were determined using statistical conditions derived from the CFA analysis. There were several statistical criteria for testing goodness of fit, as reported in Table 5.

Table 5

Some Statistical Criteria for Goodness of Fit Test

Goodness of Fit Size	Standard Fit Limits
Probability	> .05 is good fit
GFI	GFI = .90 is good fit .90 = GFI = .80 is marginal fit
RMSEA	RMSEA = .05 is close fit .05 < RMSEA = .08 is good fit .08 < RMSEA = .10 is marginal fit
NFI	NFI = .90 is good fit .90 = NFI = .80 is marginal fit
RFI	RFI = .90 is good fit .90 = RFI = .80 is marginal fit
IFI	IFI = .90 is good fit .90 = IFI = .80 is marginal fit
CFI	CFI = .90 is good fit .90 CFI = .80 is marginal fit

Note. GFI = Goodness of Fit Index. RMSEA = Root Mean Square Error of Approximation. NFI = Normed Fit Index. RFI = Relative Fit Index. IFI = Incremental Fit Index. CFI = Comparative Fit Index.

After the model was fit, the next step was to check the factor loading value of each item, which required .50, as well as the reliability and validity of the measuring instrument through composite reliability (CR) and average variance extracted (AVE). The minimum CR and AVE values were .70 and .50, respectively (Cheung et al., 2024). The model was required to meet

the assumption of multivariate normality. The Bollen-Stine Bootstrap was necessary to ensure the data was suitable for use with a significance level (p) above .05 when the multivariate normality element was not met. For the second analysis, the Pearson correlation method was used when the data met the assumption of normality.

The data were ordinal and did not meet the assumption of multivariate normality. In an ideal situation, the recommended estimator was WLSMV, which was more suitable for ordinal data (Brown, 2015). However, the Bollen-Stine Bootstrap was used due to the limitations in the AMOS software that did not support the estimator. This method was widely used in research on the validation of measuring instruments through AMOS when the data were multivariately non-normal (Bollen & Stine, 1992; Byrne, 2016). Several research (Arifin & Yusoff, 2016; Hong & Walker, 2015; Wang et al., 2024) have also used a similar strategy in the statistical testing process of measuring instrument models. In this context, CFA was conducted using AMOS with non-parametric adjustments through bootstrapping to enhance the accuracy of model estimation under non-normal conditions.
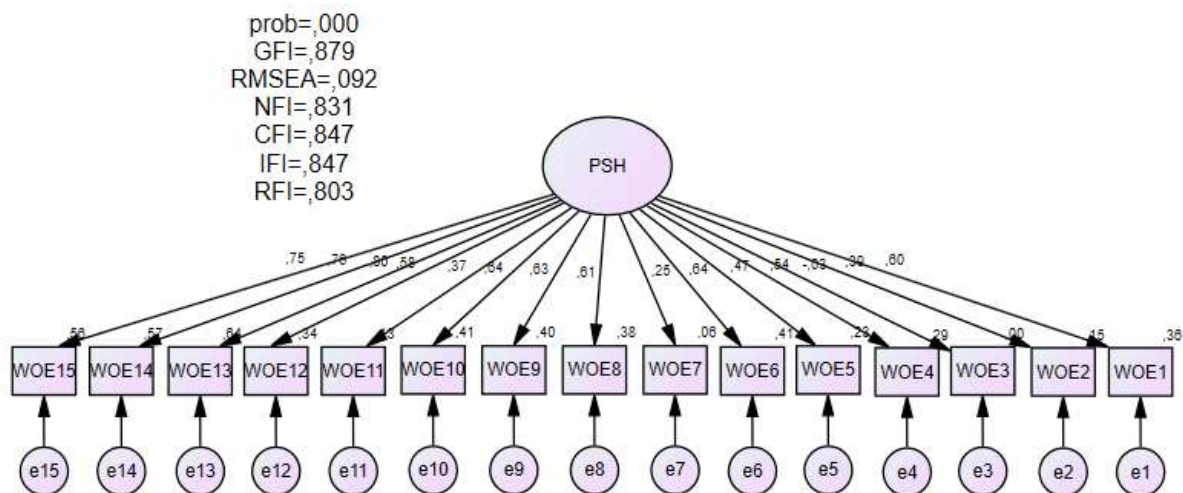
Results

This research aimed to adapt the Persevering Hope Scale into Indonesian and test validity based on internal structure and relationship with flourishing in adolescents in Greater Jakarta. The CFA results found that the 15-item Persevering Hope Scale, adapted into Indonesian, had a less suitable model because many of the fit indicators were not met. Therefore, item elimination was carried out until only 4 items could be retained to create a fit model. These results were similar to the original scale from (Rueger et al., 2023), which retained only four items, namely 10, 13, 14, and 15. In the Indonesian version of the adapted scale, there were differences in the remaining items required for model fit of items 12, 13, 14, and 15. Item 10 was not considered sufficiently fit to be retained because the factor loading was less than .50. In contrast, item 12 was sufficiently fit to be retained because of a factor loading value greater than .50. Figure 1 shows the first and second first-order CFA models with 15 and 4 valid items, respectively.
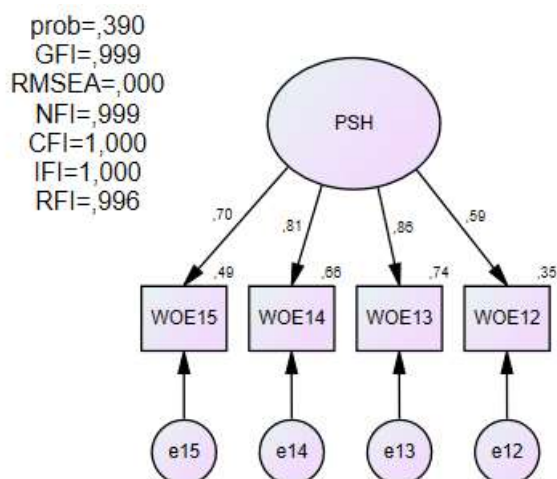
Figure 1

The First of First-order CFA Results for 15 Items

Figure 2

The Second of First-order CFA Results for 4 Items

Table 6

First-Order CFA Test Results for the 15 and the 4 Item Model

Fit Index	15 Item Model	4 Item Model
Probability	.00 (not fit)	.390 (good fit)
GFI	.879 (marginal fit)	.999 (good fit)
RMSEA	.092 (marginal fit)	.000 (close fit)
NFI	.831 (marginal fit)	.999 (good fit)
CFI	.847 (marginal fit)	1.000 (good fit)
IFI	.847 (marginal fit)	1.000 (good fit)
RFI	.803 (marginal fit)	.996 (good fit)

Based on the CFA test results, the 4-item model was more suitable for use compared to the 15-item model. Furthermore, the 4-item model had a better value above .50, causing the CR and AVE values to meet the criteria of above .70 and .50. Table 7 shows the results of the item factor loadings, as well as the reliability and validity of the 4-item model.

Table 7

Factor Loading, CR, and AVE Results of the 4-Item Model

Item	l	l²	1-l²	CR	AVE
WOE12	.591	.35	.65		
WOE13	.862	.74	.26		
WOE14	.811	.66	.34	.833	.56
WOE15	.699	.49	.51		
S	2.96	2.24	1.76		

CFA testing requires checking for multivariate normality assumptions. The data did not meet the multivariate normality assumption because the CR was above 1.96, specifically 20.128, as evident in Table 8.

Table 8

Multivariate Normality Assumption Test Results

Variable	skew	c.r.	kurtosis	c.r.
WOE15	-.708	-8.782	.369	2.292
WOE14	-.473	-5.865	-.299	-1.853
WOE13	-.643	-7.977	.313	1.945
WOE12	-.294	-3.651	-.372	-2.311
Multivariate			9.175	20.128

Data that did not meet the multivariate normality assumption in CFA required Bollen-Stine Bootstrap analysis to obtain more accurate estimates. Based on the results using 2000 samples, the model had a better fit in 1118 samples with a sig (*p*) value of .441 above .05. Therefore, the model was considered acceptable, and there was no strong evidence for rejection. Table 9 shows the results of the Bollen-Stine Bootstrap.

Table 9

Results from the Bollen-Stine Bootstrap 2000 Samples

Category	Value
The number of samples for the model becomes better	1118
The number of samples for the model has the same good fit	0
The number of samples for the model is inadequate or fails to fit	882
Test of the null hypothesis that the model is correct, Sig (p) Bollen-Stine Bootstrap	.441

A correlation analysis was conducted to examine relationship between persevering hope and flourishing in participants after the variables were subjected to the CFA process and were deemed reliable and valid. Before the correlation test, a univariate normality assumption test was performed using a one-sample Kolmogorov-Smirnov test. Based on the data normality test, persevering hope and flourishing had a p-value of .00. The data were considered non-normally distributed since the values were less than .05, as presented in Table 10.

Table 10

Results of Data Normality Test Using One-Sample Kolmogorov-Smirnov

		Persevering Hope	Flourishing
N		924	924
Normal Parameters[a,b]	Mean	15.2089	29.7987
	Std. Deviation	3.01759	4.74696
Most Extreme Differences	Absolute	.106	.083
	Positive	.071	.055
	Negative	-.106	-.083
Test Statistic		.106	.083
Asymp. Sig. (2-tailed)		.000[c]	.000[c]

The next step was to conduct a Spearman correlation test to determine relationship between persevering hope and flourishing after discovering that the data was not normally distributed. Based on the results, persevering hope had a significant positive relationship with flourishing ($r = .510^{**}$; $p < .01$).

Discussion

This research aims to provide evidence of validity of Persevering Hope Scale scores through internal structure and relationships with other variables in adolescents from Greater Jakarta. The method used refers to argument-based validity, which holds that validity is inherent in the justification of scores obtained from the use (AERA et al., 2014). Argument-based validity frames the concept as an argument built through a series of empirical and theoretical evidence to support interpretation claims. A total of five main types of evidence that can help validity of score interpretations include (1) evidence based on test content, namely the correspondence between the measuring instrument and the construct domain, (2) evidence based on response processes, namely the balance between the participant's thought process when answering items with the cognitive processes assumed by the construct, (3) evidence based on internal structure, which assesses the correspondence between items in the measuring instrument, (4) evidence based on relationships with other variables, such as criterion or convergent-divergent validity, and (5) evidence based on

the social consequences of test use, including positive and negative impacts.

In this research, two types of evidence are presented, namely internal structure and relationships with other variables. Evidence of internal structure is obtained through CFA analysis, while relationships with other variables are reported through significant correlations with flourishing, serving as a form of criterion-related validity. Even though this research does not include all forms of evidence as recommended by the argument-based validity framework, the two forms provide a strong and adequate basis to support the interpretation of Persevering Hope Scale scores.

Several items are eliminated from the full version because the loading factor values do not meet the minimum standard of .50. The goodness-of-fit indicators also report poor results from the initial version of 15 items. Therefore, items under the directions of multivariate data analysis are eliminated (Hair et al., 2019) since the minimum limit for retaining an item is .50. After several eliminations of items with a loading factor below .50, only four remain with a loading factor of more than .50. The results of the model show better goodness of fit indicators. Other results from reliability and validity testing state that the persevering hope measuring instrument adapted into Indonesian has CR and AVE values above .70 (.833) and .50 (.56),

respectively. The measuring instrument has been considered reliable and valid according to the minimum standards set for CFA testing (Cheung et al., 2024).

Based on the normality assumption results, the data do not meet the multivariate normality assumption. According to Byrne (2016), data that does not meet the normality assumption needs to be checked for outliers using the Mahalanobis distance or the bootstrapping method to overcome the unmet normality assumption. The literature reviews (Byrne, 2016; Hair et al, 2019; Yuan & Bentler, 2000) show that the method used to overcome the assumption of non-normality of data is bootstrapping, rather than removing outliers, for several considerations. First, the removal of outliers can lead to a loss of important information, specifically when the outliers accurately reflect the real characteristics of the population. Second, large samples can show violations of normality, specifically when the data report high skewness or kurtosis. Bootstrapping enables more robust parameter estimation without requiring data removal. Third, Mahalanobis distance tends to detect outliers statistically, but does not mean the data is incorrect or should be removed. The removal of respondents can introduce bias or alter the structure of latent variables. Fourth, bootstrapping works by constructing a redistribution from existing data, retaining all the information in the sample, and providing more stable results.

Bollen-Stine Bootstrap test, including 2000 participants, showed that the data performed better with a sample size of 1118. The model's performance is worse or fails to fit when using 882 participants. According to Bollen and Stine (1992), a p-value of .441 suggests that the model is acceptable and provides no strong evidence for rejection. Even though the normality assumption has not been met, the insignificant nature of the Bollen-Stine Bootstrap shows that the model is acceptable. Byrne (2016) explained that a p-value > .05 reported no significant difference between the sample covariance matrix and the estimated model covariance matrix. Therefore, the model can be considered fit when violations of the normality assumption do not have a significant impact.

Only 4 of the 15 items remain valid, with factor loadings that met the requirements and model fit indicators reporting a good fit. These results are similar to the original measurement instrument (Rueger et al., 2023), specifically in valid items 13, 14, and 15. However, item 10 in the original measurement instrument, which reads "am determined to see things through to the end," translates to " meneguhkan diri untuk melihat sesuatu hingga akhir", is insufficient and should be dropped. Item 12 in the original measurement instrument, which reads "can get through the hard things in life," when translated into "dapat melewati masa sulit dalam kehidupan," is retained. The translation of item 12 is more acceptable than item 10 when

participants fill out the questionnaire. Therefore, the significance level of item 10 is reduced since the meaning of "meneguhkan diri" is less appropriate.

The correlation analysis results show a significant positive relationship between Persevering Hope Scale scores and Flourishing (r = .510, p < .01). This result supports hypothesis H2, where Persevering Hope and FS are positively correlated, providing evidence of construct validity based on relationships with other variables. The level of persevering hope in an individual is directly proportional to flourishing or psychological well-being experienced. This result is also in line with previous research, where individuals with high levels of persevering hope tend to have better emotional well-being (Gallagher, 2018; Rueger et al., 2023). Rueger et al. (2023) showed that persevering hope served as a protective factor against stress and anxiety. Rose (2022) stated the role of persevering hope in enhancing resilience in the face of uncertainties. These results strengthen the position of persevering hope as an important predictor in supporting flourishing in adolescents.

Laranjeira and Querido (2022) stated that hope and optimism could enhance mental resilience and individual well-being in the face of various life challenges. Furthermore, Huen et al. (2015) found that hope was a significant predictor of flourishing levels, particularly in individuals experiencing emotional distress. Satici (2016) also showed that individuals with

psychological vulnerability and low resilience could achieve subjective well-being through the role of enduring hope. Therefore, hope is crucial for individuals with vulnerable and fragile psychological conditions to achieve better mental health. The adjustment of item content in the Indonesian version also shows the importance of cultural meaning in the adaptation process of the measurement tool (Beaton et al, 2000). Differences in item validity between the original and adapted versions have been observed (Lee et al., 2020) in adapting the positive and negative affect schedules. The results show differences between the original and the adapted versions of the items. Local socio-cultural meanings greatly influence the perception of responses to the measurement tool items.

This research has several limitations considered when interpreting the results. First, the data are collected using convenience sampling and online distribution, which may not fully represent the overall adolescent population of Greater Jakarta. Second, the cross-sectional design prevents experts from observing changes in persevering hope and flourishing over time. Third, the validation of the Persevering Hope Scale includes only two forms of evidence from the five argument-based validity frameworks (AERA et al., 2014), preventing an in-depth content and response process. Therefore, further analysis is recommended to use a longitudinal method and integrate qualitative interviews or think-aloud

methods in testing validity of the response process (Willis, 2015).

Conclusions

In conclusion, this research aimed to adapt and test validity evidence of the Persevering Hope Scale in the context of adolescents in Greater Jakarta. The CFA analysis showed that only 4 of the original 15 items were valid and met the model fit criteria. The adapted scale also reported adequate validity and reliability, with CR and AVE values above the minimum threshold. Furthermore, a significant positive relationship was found between persevering hope and flourishing, supporting validity evidence based on relationship with other variables. The Indonesian version of the Persevering Hope Scale was used as a measuring tool in the context of psychological well-being.

Suggestion

This research has limitations, including the use of a non-probabilistic sampling method, a cross-sectional design, and a limited scope of validity restricted to two of the five types of evidence. Therefore, further research are recommended to use a longitudinal method, including a more representative population. Additional content and response process validity can be conducted through cognitive interviews or mixed methods to strengthen the justification for interpreting scale scores more comprehensively.

Based on the results and limitations, several implications can be considered for further development. In the context of education and psychological intervention, schools and educational institutions must develop guidance and counseling programs focused on increasing persevering hope to help adolescents face various academic and social challenges. Furthermore, the role of parents and teachers is also a key factor in shaping persistent hope in adolescents. Training programs are needed for parents and teachers to provide more effective emotional support and build an environment that promotes resilience and motivation in adolescents.

Further research can be conducted using longitudinal methods to understand the development of persevering hope over time and the impact on long-term mental well-being. Experimental methods can be used to evaluate the effectiveness of various interventions in increasing persevering hope and relationship to flourishing. Therefore, the results can contribute to improving adolescents' psychological well-being and provide a basis for developing more effective policies and intervention programs in the future through the efforts.

Acknowledgment

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