

Development and Psychometric Validation of the Youth Devotion Scale for Javanese Adolescents

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Abstract

Filial piety is a fundamental value in Javanese culture that emphasizes respect, obedience, and responsibility toward parents. Despite its importance, there is still a lack of culturally grounded psychological instruments specifically developed to measure filial piety among Javanese adolescents. This study aimed to develop and validate the Youth Devotion Scale for assessing filial piety in Javanese families. A quantitative instrument development design was employed involving 242 Javanese adolescents aged 10–19 years recruited through convenience sampling. Instrument development began with a literature review and qualitative exploration, resulting in an initial pool of 31 items. Content validity was evaluated through expert judgment using Aiken's V, retaining 25 items for empirical testing. Construct validity was subsequently examined using Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA), while reliability was assessed using Composite Reliability (CR) and Cronbach's alpha. Convergent and discriminant validity were evaluated using Average Variance Extracted (AVE) and the Heterotrait–Monotrait Ratio (HTMT), respectively. The final instrument consisted of 17 items representing three dimensions: Respect for Parents, Obedience to Parents, and Maintaining Parents' Trust. The three-factor model demonstrated satisfactory psychometric properties, including good model fit, significant factor loadings, acceptable construct reliability, and adequate evidence of convergent and discriminant validity. These findings indicate that the Youth Devotion Scale is a valid and reliable instrument for measuring filial piety among Javanese adolescents and provides a culturally grounded measure that can support future research and psychological assessment within the Indonesian context.

Keywords: *filial piety; instrument development; psychometric validation; exploratory factor analysis; confirmatory factor analysis; Javanese adolescents.*



INTRODUCTION

Background

The family, as the smallest unit in society, serves as the foundation for social and cultural values. According to Javanese society, the family is not merely viewed as a bond tied by biological ties, but also as a powerful philosophical entity with life's demands; one such concept is the idea of "filial piety" or "devotion" toward one's parents (Pratiwi & Agung, 2022). This concept is deeply ingrained through ancestral teachings such as "honor your parents," which aligns with religious commandments.

The family begins to change as it enters the currents of globalization, modernization, and shifts in socio-economic structures; the practice and interpretation of filial piety within Javanese families face complex transformative challenges (Francitha et al., 2023). Filial piety in Javanese families is not merely a social norm applied in daily life; it also serves as a profound dimension of spirituality and philosophy (Nawawi, 2014). This concept is closely tied to the Javanese worldview regarding the cycle of life and the reciprocal relationships between generations. In Javanese philosophy, parents are regarded as the "pancer" or center of the family the source of life and wisdom. Javanese teachings such as "urip iku urup," meaning "life must illuminate," imply that children have a duty to bring honor to the family name through virtuous behavior and to maintain harmony as a manifestation of filial piety. In Javanese cosmology, a harmonious vertical relationship with parents is believed to influence an individual's survival and cosmic harmony. Thus, neglecting the duty of filial piety is not only a form of social transgression but also a disruption that affects the order within Javanese cosmology.

In the current context, modern Javanese families face multidimensional pressures that test the resilience of the value of filial piety (Diananda, 2021). The increasing participation of women in the public sphere, along with the influx of Western values, has the potential to shift the traditional forms and expressions of children's devotion to their parents. Phenomena such as children moving away and living separately from their parents, the decreasing intensity of direct communication between parents and children, and value conflicts between the younger and older generations have become normalized (Handayani, 2024). The era of globalization has given filial piety new forms, such as financial support, healthcare, and digital communication—for instance, the emergence of the "sandwich generation," who must support their children while caring for their parents, creating new dilemmas in fulfilling filial obligations both materially and emotionally. Awareness of the importance of mental health and boundaries within family relationships is also increasingly being discussed.

The pressures present in Javanese family culture do not stem solely from evolving human perspectives but are also amplified by the advancements of the globalization and modernization era, with communication technologies and digital platforms acting as a double-edged sword. On one hand, they offer convenience in maintaining filial piety even from a distance; on the other, they can diminish the depth of relationships that can only be built

through physical presence and direct interaction (Dewi et al., 2019). This condition, creating a new paradox, has led to changes in the exploration of the meaning and practices of filial piety.

Research on filial piety in Javanese culture is important and necessary because it tests Yeh and Bedford's Dual Filial Piety theory, which is based on Confucianism, which is universal and does not fully encompass local cultures, especially Javanese culture. Therefore, adjustments are needed to Javanese philosophical culture such as etiquette, family dignity, and self-esteem, which are not included in Yeh and Bedford's measuring instrument (Sugianto et al., 2024). Psychologically, filial piety in Javanese culture involves deep emotional and spiritual bonds, not only based on social obligations (Yulianto & Faturochman, 2016). This explanation is reinforced by Adiyanti's (2013) research which explains that in Javanese families, there are differences in the concept of psychological foundations between rukun and harmony. "rukun" in Javanese culture is based on cultural and religious teachings with sources of motivation from spiritual values, religiosity, and local wisdom, while "harmony" is more directed towards Confucian philosophical teachings with sources of motivation from social ethics, hierarchy, and philosophical morals.

This study is important because it provides a culturally grounded psychometric instrument for assessing youth devotion in Javanese families. The insights from this research hold not only academic value but also practical significance in efforts to preserve local wisdom while addressing the changes of the times in a healthy manner without abandoning the philosophical meanings of the past.

Literature review and previous studies

Numerous studies have been conducted on filial piety, particularly in East Asian contexts such as China and Korea, which share similarities with Java in their emphasis on collectivist values and respect for parents (Yeh & Bedford, 2003). In discussions specifically regarding Java, several studies have touched on this aspect (Geertz, 1989), elaborating extensively on the concepts of "respect" and "etiquette" as part of the filial relationship between children and parents.

Previous research (Dinasyari, 2013) explored the meaning and practices of filial piety among Javanese Muslim adolescents, defined as attitudes of obedience, respect, fulfillment of duties, alleviating burdens, behaving well, serving, and bringing joy to parents. The findings indicate that adolescents express filial piety through obedience, physical and material assistance, and religious practices such as praying for deceased parents, with differing responses between male and female adolescents in specific situations, confirming the relevance of filial piety despite the influence of modernization.

Another previous study (Nurani et al., n.d.) analyzed character formation within Javanese families from a student's perspective, revealing that politeness is the most dominant virtue taught, followed by honesty, mutual aid, religious devotion, and responsibility. Joint activities such as eating together, recreation, watching television, worship, and cleaning together serve as the primary means to strengthen interactions and

internalize children's filial piety toward their parents, indicating that Javanese families remain consistent in instilling character through warm and structured daily interactions.

In psychology, the construct of filial piety is a representation of a complex and multidimensional psychological phenomenon, which in the context of Javanese culture is manifested through hereditary guidelines that teach awareness of devotion and caring for parents (Triratnawati & Winarni, 2025). The theoretical construct is rooted in noble Javanese cultural values by transforming universal psychological concepts into entities laden with moral and ethical imperatives. Rochayanti (2012) explains that the acculturation of local cultural values in Javanese families is essential to continue the culture that has been taught from generation to generation.

The previous explanation is strengthened by Uyun's (2017) research, which found that respect for elders among Javanese adolescents is manifested through behavioral models such as greeting, smiling, using polite and polite language, and bowing or curtsying when meeting elders. A structural equation modeling (SEM) measurement approach was used to validate the relationship between each behavioral indicator and the filial piety variable, empirically testing the role of cultural constructs in family dynamics and psychological well-being. Priyatningsih (2022) further explains that traditions such as sungkeman in Javanese customs teach children obedience to parents, ethics, and cultural character of polite attitudes in realizing respect and good morals.

Research objectives

The aim of the research is: (1) Exploring and analyzing the interpretation of the concept of filial piety toward parents from a multigenerational perspective within Javanese familie. (2) To develop and validate a multidimensional filial piety scale among Javanese adolescents

Research benefits

There are 2 benefits of research, namely: Theoretical Benefits (1) Contributes to the body of knowledge in anthropology, family sociology, and Javanese cultural studies, particularly regarding the study of family values in a changing society. (2) Enriches the discussion on filial piety within the Javanese cultural context, adding local nuances to the global discourse. (3) Can serve as a foundation or reference for further research on family dynamics in the Indonesian archipelago. Practical Benefits: (1) For Javanese Families: Provides reflection and insight into intergenerational communication and the contextual application of filial piety, without losing its essence. (2) For the Wider Community: Strengthens understanding of the importance of preserving family values amid changing times, and encourages dialogue with Javanese culture through new forms of respect and care for parents.

RESEARCH METHOD

Research Design

This study employed a quantitative cross-sectional design to develop and validate a

psychological instrument measuring youth devotion (*filial piety*) in Javanese families. The instrument development followed a systematic psychometric procedure consisting of construct conceptualization, item generation, content validity evaluation, exploratory factor analysis (EFA), confirmatory factor analysis (CFA), and reliability and construct validity assessment. Such a sequential approach is recommended in psychological scale development to ensure that the resulting instrument demonstrates adequate evidence of validity and reliability (DeVellis & Thorpe, 2021; Worthington & Whittaker, 2006).

Instrument Development

The development of the Youth Devotion Scale began with a literature review on filial piety, indigenous psychology, and Javanese cultural values, followed by qualitative exploration to identify behavioral manifestations of youth devotion within Javanese families. Based on these findings, an initial item pool consisting of 31 items was generated to represent four conceptual dimensions of youth devotion. The initial items were subsequently evaluated through expert judgment involving four experts with expertise in psychology, psychological measurement, and Javanese culture. The experts assessed the relevance, clarity, and representativeness of each item using Aiken's content validity procedure (Aiken, 1985). Items with inadequate content validity were revised or removed based on the experts' recommendations. Following this evaluation, 25 items demonstrated satisfactory content validity and were retained for empirical testing.

Construct validity was evaluated in two consecutive stages. First, Exploratory Factor Analysis (EFA) was conducted to identify the latent factor structure underlying the retained items without imposing a predetermined measurement model. EFA is recommended during the early stage of instrument development because it allows researchers to explore the empirical organization of indicators based on observed data (Worthington & Whittaker, 2006). The resulting factor structure was subsequently evaluated using Confirmatory Factor Analysis (CFA) to determine whether the empirical model adequately represented the relationships between observed indicators and the proposed latent constructs (Brown, 2015). This sequential EFA–CFA approach is considered best practice in psychological instrument development because it provides complementary evidence of construct validity (Flora & Flake, 2017).

Participants

The study involved 242 adolescents aged 10 - 19 years who were recruited using convenience sampling. Participants consisted of junior high school and senior high school students representing early to late adolescence. The inclusion criteria were: (a) adolescents aged between 10 and 19 years, (b) currently enrolled in school, (c) identifying as Javanese or being raised in a Javanese family, and (d) completing all questionnaire items. Responses with substantial missing data or inconsistent response patterns were excluded prior to analysis. Convenience sampling was employed because this study represents the initial stage of instrument development aimed at obtaining preliminary psychometric evidence. Although this sampling technique limits the generalizability of findings, it is commonly adopted in

early validation studies before subsequent testing using larger and more representative samples (DeVellis & Thorpe, 2021; Worthington & Whittaker, 2006).

The sample size was considered adequate for the planned psychometric analyses. Recommendations in scale development research suggest that factor analytic procedures require an adequate participant-to-item ratio, while recent psychometric literature indicates that sample adequacy should also consider communalities, factor loadings, and model complexity rather than relying solely on fixed numerical rules (Worthington & Whittaker, 2006; Brown, 2015).

Data Collection Procedure

Data were collected using an online self-administered questionnaire distributed through educational networks and social media platforms. Before participation, respondents received an explanation regarding the objectives of the study, voluntary participation, confidentiality of responses, and anonymity of personal information. Participants provided informed consent electronically before accessing the questionnaire. Completion of the questionnaire required approximately 10–15 minutes. After data collection, responses were screened for completeness and consistency prior to psychometric analysis. Only complete datasets meeting the inclusion criteria were retained for further analysis.

Data Analysis

Content validity was evaluated using Aiken's V coefficient, which quantifies the degree of agreement among experts regarding the relevance of each item to the construct being measured (Aiken, 1985). This procedure is recommended during instrument development to ensure adequate representation of the construct domain before empirical validation (DeVellis & Thorpe, 2021). The retained items were subsequently analyzed using Exploratory Factor Analysis (EFA). Prior to extraction, sampling adequacy was assessed using the Kaiser–Meyer–Olkin (KMO) index and Bartlett's Test of Sphericity. Factors were extracted using Principal Axis Factoring (PAF) with Promax rotation, while the number of retained factors was determined through Parallel Analysis, which has been shown to outperform traditional eigenvalue-based approaches in identifying the appropriate number of factors (Hayton et al., 2004).

The resulting factor structure was then examined through Confirmatory Factor Analysis (CFA) using R with the lavaan package. Because all questionnaire items were measured using six-point ordinal Likert response categories, parameter estimation employed the Diagonally Weighted Least Squares (DWLS) estimator, which provides more accurate parameter estimates and standard errors than Maximum Likelihood when analyzing ordinal indicators (Li, 2016). Model fit was evaluated using multiple goodness-of-fit indices, including the Comparative Fit Index (CFI), Tucker–Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR), following commonly recommended criteria for structural equation modeling (Hu & Bentler, 1999; Brown, 2015). Construct reliability was evaluated using Composite Reliability (CR) and Cronbach's alpha, whereas convergent validity was assessed using the Average Variance

Extracted (AVE). Discriminant validity was examined using the Heterotrait–Monotrait Ratio (HTMT), which is considered a more sensitive criterion than traditional approaches for evaluating discriminant validity (Henseler et al., 2015).

Table. 1 blueprint table

Aspect	Indicator	Items
Respect for Parents	Respect for parents refers to adolescents' tendency to express respect toward parents through courteous communication, acceptance of parental guidance, attentive and polite interactions, seeking parents' blessings, and maintaining behaviors that uphold family dignity.	8
Obedience to Parents	Obedience to parents refers to adolescents' willingness to comply with parental instructions, respond positively to parental guidance, and regulate their behavior in accordance with parental expectations and family norms.	6
Maintaining Parents' Trust	Maintaining parents' trust refers to adolescents' tendency to preserve parents' trust by respecting parental decisions, fulfilling responsibilities, and engaging in behaviors that reinforce parental confidence.	3
Total		17

RESULTS AND DISCUSSION

Content Validity

The instrument measuring adolescent filial piety in Javanese families was developed based on the results of qualitative research that identified the dimensions of adolescent filial piety toward parents. Based on the findings of this exploratory study, 31 items were formulated to represent four conceptual aspects: respecting parents, obeying parents, observing proper etiquette, and upholding parents' dignity. Subsequently, all items were evaluated through *expert judgment* using Aiken's V index, involving four experts with expertise in psychology and instrument development. This stage aimed to ensure that each item accurately represented the construct being measured before conducting construct validity testing. The assessment results showed that of the 31 items developed, 25 met the content validity criteria and were retained for the next stage of analysis, while 6 items (items 3, 5, 17, 24, 30, and 31) were eliminated because they did not meet the established Aiken's V value. Thus, 25 items were deemed to have adequate content validity and were subsequently used in the Exploratory Factor Analysis (EFA) stage to evaluate the instrument's empirical factor structure.

Exploratory Factor Analysis

Exploratory factor analysis was conducted on 25 items that had met content validity criteria to identify the empirical factor structure of the instrument prior to testing using Confirmatory Factor Analysis (CFA). The analysis was performed using the Principal Axis Factoring method with Promax rotation, given that the purpose of the analysis was to

identify intercorrelated latent constructs. Before the factor extraction process was carried out, the suitability of the data for factor analysis was first tested. The test results showed a Kaiser-Meyer-Olkin (KMO) value of 0.867, indicating that the sample was sufficiently suitable for factor analysis. In addition, Bartlett's Test of Sphericity yielded a significant result ($p < 0.001$), indicating that the intercorrelation matrix among the items was adequate for factor extraction.

Table 2. Feasibility Data (KMO & Bartlett)

Indicator	Value
Kaiser-Meyer-Olkin (KMO)	0.867
Bartlett's Test of Sphericity (χ^2)	2099.647
df	300
Sig.	<0.001

Next, the number of factors was determined based on the results of parallel analysis, along with an interpretation of factor loadings and alignment with the instrument's conceptual framework. Although the initial conceptual model consisted of four aspects derived from qualitative research, the results of the empirical analysis indicated that the instrument's structure was more accurately represented by three factors. Therefore, the factor extraction process was conducted by retaining three factors as the final structure of the instrument. Based on the criterion of a factor loading of ≥ 0.40 , 17 items met the requirements to be retained, while the other eight items were eliminated because their factor loadings fell below the established threshold. These results indicate that not all of the initial conceptual aspects formed independent factors; rather, several indicators combined to form an empirical construct that is more representative of the data.

Table3. Loadings from the Exploratory Factor Analysis

Item	Respect for Parents	Obedience to Parents	Maintaining Parents' Trust
T14	0.900		
T15	0.833		
T16	0.830		
P9	0.641		
H6	0.603		
P10	0.528		
T18	0.451		
M24	0.432		
P12		0.711	

P11	0.705	
P13	0.651	
T19	0.567	
M25	0.545	
M22	0.487	
P8		0.647
M21		0.501
P7		0.478

Note: Rotation was performed using the Promax method. Only items with factor loadings ≥ 0.40 were retained.

Based on the results of the factor analysis, the first factor consists of eight items that describe behavior showing respect for parents, such as speaking politely, accepting advice, maintaining proper conduct, and showing respect in various situations. This factor was subsequently named "Respect for Parents." The second factor consists of six items that describe obedience to parents, particularly regarding a willingness to follow instructions, accept advice, and avoid behavior that goes against the parents' wishes. Therefore, this factor was named "Obedience to Parents." The third factor consists of three items that describe adolescents' efforts to maintain their parents' trust through responsible behavior, respecting their parents' decisions, and choosing a positive social environment. Based on the characteristics of these indicators, this factor was named "Maintaining Parental Trust." Overall, the results of the exploratory factor analysis yielded 17 items distributed across three dimensions, which were subsequently used as a measurement model in the Confirmatory Factor Analysis (CFA) stage.

Table 4. Factor Structure of EFA Results

Factor	Number of Items	Item Code
Respect for Parents	8	H6, P9, P10, T14, T15, T16, T18, M24
Obedience to Parents	6	P11, P12, P13, T19, M22, M25
Maintaining Parents' Trust	3	P7, P8, M21

Confirmatory Factor Analysis

After the factor structure was obtained through exploratory factor analysis, the measurement model was then tested using Confirmatory Factor Analysis (CFA) to confirm the fit of the three-factor structure that emerged empirically. The analysis was conducted on the 17 items retained in the EFA stage using the Diagonally Weighted Least Squares (DWLS) method. This method was chosen based on the characteristics of the data, which used a

six-category Likert scale and was therefore treated as ordinal data. Model fit was evaluated using several *goodness-of-fit* indices, namely Chi-square (χ^2), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), Standardized Root Mean Square Residual (SRMR), Normed Fit Index (NFI), and Incremental Fit Index (IFI). The analysis results show that the measurement model has an excellent level of fit with the data. A Chi-square value of 107.586 with $df = 116$ indicates a non-significant result ($p = 0.699$), suggesting that the constructed model does not differ significantly from the empirical data. Furthermore, the values of CFI = 1.000, TLI = 1.005, IFI = 1.004, and NFI = 0.946 are above the recommended threshold (≥ 0.90). The measurement error indices also show good results, namely RMSEA = 0.000 and SRMR = 0.066, which are below the maximum threshold of 0.08. Overall, the *goodness-of-fit* results indicate that the three-factor model obtained through EFA fits the empirical data well and is therefore suitable for use as a model for measuring adolescent resilience in Javanese families.

Table. 5 Goodness of Fit (CFA)

Index	Value	Criteria	Decision
χ^2	107.586	-	-
df	116	-	-
p-value	0.699	>0.05	Fit
CFI	1.000	≥ 0.90	Fit
TLI	1.005	≥ 0.90	Fit
NFI	0.946	≥ 0.90	Fit
IFI	1.004	≥ 0.90	Fit
RMSEA	0.000	≤ 0.08	Fit
SRMR	0.066	≤ 0.08	Fit

The model parameter estimates were then evaluated using standardized factor loadings, standard errors (SE), z-scores, significance levels (p), and coefficients of determination (R^2) for each indicator. The results of the analysis showed that all indicators had significant z-scores ($p < 0.001$), indicating that each indicator made a meaningful contribution to the construct being measured. The *standardized factor loadings* for the Respect for Parents dimension ranged from 0.497 to 0.810, while those for the Obedience to Parents dimension ranged from 0.401 to 0.800. In the "Maintaining Parents' Trust" dimension, two indicators showed adequate *loadings* (0.635 and 0.769), while one indicator had a relatively low *loading* (0.244). The results of the coefficient of determination (R^2) indicate that most indicators are well explained by their latent constructs, although there are several indicators that still have a relatively low proportion of variance, particularly in the "Maintaining Parents' Trust" dimension. Nevertheless, all indicators were retained because

they still represent the constructs derived from the qualitative exploration phase and EFA.

Table 6. Standardized Factor Loadings (CFA)

Factor	Item	Loading	SE	z	p	R ²
Respect for Parents	H6	0.788	0.066	11.900	<0.001	0.621
	P9	0.648	0.048	13.473	<0.001	0.420
	P10	0.684	0.057	12.004	<0.001	0.468
	T14	0.700	0.065	10.777	<0.001	0.490
	T15	0.744	0.058	12.734	<0.001	0.553
	T16	0.810	0.061	13.353	<0.001	0.657
	T18	0.613	0.060	10.226	<0.001	0.375
	M24	0.497	0.071	6.996	<0.001	0.247
Obedience to Parents	P11	0.572	0.051	11.152	<0.001	0.327
	P12	0.800	0.077	10.406	<0.001	0.640
	P13	0.716	0.072	9.879	<0.001	0.512
	T19	0.543	0.048	11.353	<0.001	0.294
	M22	0.579	0.058	10.054	<0.001	0.335
	M25	0.401	0.040	10.041	<0.001	0.161
Maintaining Parents' Trust	P8	0.635	0.083	7.681	<0.001	0.403
	M21	0.769	0.111	6.929	<0.001	0.591
	P7	0.244	0.051	4.745	<0.001	0.060

Note: *Loading* = standardized factor loading; *SE* = standard error; *z* = test statistic value; *p* = significance level; *R*² = indicator coefficient of determination.

Plots

Model plot

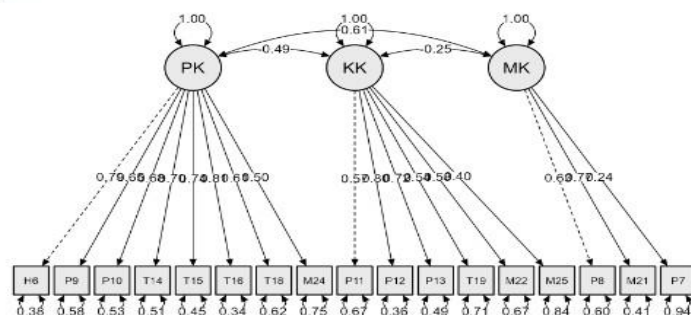


Figure 1. CFA model

Convergent Validity and Construct Reliability

Convergent validity was evaluated using *standardized factor loadings*, *Composite Reliability* (CR), and *Average Variance Extracted* (AVE), while construct reliability was evaluated using Cronbach's alpha. The results of the analysis showed that most indicators had adequate *factor loadings*, particularly in the dimensions of Respect for Parents and Obedience to Parents. The CR values for these two dimensions were 0.878 and 0.778, respectively, indicating good internal consistency as they exceeded the recommended minimum thresholds. The AVE values for the Respect for Parents dimension were 0.479 and for the Obedience to Parents dimension were 0.378. Although both values were slightly below the ideal criterion of 0.50, both constructs can still be considered to have adequate convergent validity because the CR values exceeded 0.70. This condition is still acceptable in instrument development research, as stated by Fornell and Larcker (1981). Meanwhile, the "Maintaining Parental Trust" dimension showed a CR value of 0.583, an AVE of 0.351, and a Cronbach's Alpha of 0.535, indicating that the reliability and convergent validity of this dimension still need to be improved. Nevertheless, this dimension is retained because it represents an important aspect derived from the qualitative research findings and is supported by the factor structure established during the EFA and CFA stages. Therefore, the development of additional indicators for this dimension is recommended for future research.

Table 7. Composite Reliability (CR), AVE, and Cronbach's Alpha

Factor	Range of Factor Loadings	Composite Reliability (CR)	Average Variance Extracted (AVE)	Cronbach's Alpha
Respect for Parents	0.497–0.810	0.878	0.479	0.876
Obedience to Parents	0.401–0.800	0.778	0.378	0.771
Maintaining Parents' Trust	0.244–0.769	0.583	0.351	0.535

Discriminant Validity

Discriminant validity was evaluated using the Heterotrait-Monotrait Ratio of Correlations (HTMT) to ensure that each dimension in the instrument measures constructs that are distinct from one another. The HTMT was chosen because this method is considered more sensitive in detecting discriminant validity issues compared to traditional approaches that only compare AVE values. The analysis results showed that all HTMT values between constructs were below the recommended maximum limit of 0.85. These findings indicate that the three dimensions in the instrument have an adequate level of construct distinctiveness. Thus, the dimensions of Respect for Parents, Obedience to Parents, and Maintaining Parents' Trust can be viewed as interrelated constructs, yet they retain distinct conceptual characteristics. In addition to being supported by the HTMT values, the CFA results also show that each indicator tends to load predominantly on the factor corresponding to its construct. This reinforces that the resulting three-factor structure not only has good model fit but is also capable of empirically distinguishing each dimension of adolescent filial piety in Javanese families.

Table. 8 HTMT (Discriminant Validity)

Construct	PK	KK	MK
PK	–		
KK	0.445	–	
MK	0.462	0.240	–

Discussion

This study successfully developed an instrument to measure adolescent resilience in Javanese families through a systematic instrument development process, ranging from conceptual exploration, content validity, exploratory factor analysis (EFA), to confirmatory factor analysis (CFA). From a psychometric perspective, instrument development aims not only to produce a set of indicators but also to provide evidence that these indicators can validly and reliably represent the latent construct (DeVellis & Thorpe, 2021). Therefore, the integration of qualitative approaches with psychometric analysis in this study allowed each stage of instrument development to complement one another. Qualitative exploration provides a conceptual foundation regarding the meaning of diversity in Javanese culture, while EFA and CFA provide empirical evidence that the formulated construct can be represented through a stable factor structure. This approach aligns with the recommendations of Worthington and Whittaker (2006), who emphasize that instrument development should begin with the formulation of a clear construct before conducting empirical factor structure testing.

One of the main findings of this study is the transformation of the initial conceptual structure which consisted of four aspects into three empirical factors. In instrument development, changes in factor structure are a common phenomenon because EFA aims to

identify the latent organization of indicators based on data covariance patterns, rather than rigidly maintaining the initial theoretical structure (Worthington & Whittaker, 2006; Hair et al., 2022). Thus, the EFA results indicate that the three-factor structure is a more appropriate empirical representation than the initial conceptual model. This finding also provides evidence that construct validity is an empirical process that allows for the refinement of theoretical models during the instrument development process (DeVellis & Thorpe, 2021). In the context of this study, the indicators originally developed to represent the aspects of *respecting parents* and *following etiquette* formed a single dimension, namely Respect for Parents. Conceptually, these results indicate that respect in Javanese culture is manifested through behaviors that reflect *politeness*, courtesy, and ethical conduct in interactions with parents; thus, these two aspects are perceived as a unified behavioral entity. This finding reinforces the view that the structure of psychological constructs is influenced by the cultural context in which they develop; therefore, the development of instruments based on local culture is essential to ensure that conceptual validity is maintained (Yeh, 2023; Sugianto et al., 2024).

The CFA results further provide evidence that the three-factor structure obtained through EFA has adequate model fit. In instrument development, CFA serves to test whether the proposed measurement model is capable of consistently representing the relationships between indicators and latent constructs based on previously formulated theory (Brown, 2015; Byrne, 2016). Thus, the model fit obtained in this study strengthens the evidence of construct validity for the developed instrument. Furthermore, all indicators showed significant relationships with their latent constructs, meaning that each indicator contributes to explaining the dimension of fairness it represents. These results indicate that the measurement model not only has a stable factor structure but also demonstrates consistent relationships between the indicators and their underlying latent constructs. This evidence serves as a key indicator that the instrument meets the basic requirements for construct validity in the development of psychological measurement tools (Brown, 2015).

An evaluation of construct quality also showed that the instrument possesses adequate discriminant validity, meaning that the three resulting dimensions can be empirically distinguished. According to Henseler et al. (2015), discriminant validity is a crucial aspect in instrument development because it demonstrates that each construct measures a distinct concept, even though they fall within the same theoretical domain. In this study, the dimensions of Respect for Parents, Obedience to Parents, and Maintaining Parents' Trust demonstrated good construct distinctiveness, such that each provides different information regarding adolescent filial piety. These findings support the assumption that filial piety is not a unidimensional construct but rather consists of several interrelated dimensions that possess distinct psychological characteristics.

Although the instrument generally demonstrates good psychometric quality, the "Maintaining Parental Trust" dimension still exhibits relatively lower convergent validity and reliability compared to the other two dimensions. From a psychometric perspective, this

indicates that the homogeneity among indicators within that dimension is not yet optimal, meaning there remains construct variance that cannot be fully explained by the available indicators (DeVellis & Thorpe, 2021). Hair et al. (2022) explain that suboptimal reliability and convergent validity scores do not necessarily mean that a construct should be eliminated, especially if the construct has a strong theoretical basis and continues to receive empirical support during the factor analysis stage. Therefore, this dimension is retained because it stems from the results of conceptual exploration and demonstrates a significant relationship with the latent construct during the CFA stage. However, the inclusion of additional indicators capable of representing various forms of parental trust should be pursued in future research to further enhance the construct's internal consistency and its ability to explain indicator variance.

Overall, this study contributes to the development of culturally-based psychological instruments (*indigenous psychological measurement*) by providing evidence of content validity, construct validity, convergent validity, discriminant validity, and construct reliability for an instrument measuring adolescent resilience in Javanese families. According to *the Standards for Educational and Psychological Testing* (AERA, APA, & NCME, 2014), validity is the accumulation of various sources of evidence supporting the interpretation of an instrument's scores; thus, the instrument development process does not end with a single study. Therefore, future research is recommended to conduct *cross-validation* across different populations, test *measurement invariance* based on demographic characteristics, evaluate *test-retest* reliability, and explore the application of a higher-order factor model to obtain more comprehensive validity evidence. These steps are expected to further strengthen the psychometric quality of the instrument while expanding its use in research on developmental psychology, family psychology, and cultural psychology in Indonesia.

CONCLUSION

This study successfully developed and validated the Youth Devotion Scale for adolescents in Javanese families using a systematic psychometric approach. The instrument development process, which included content validity assessment, exploratory factor analysis (EFA), confirmatory factor analysis (CFA), and reliability and validity evaluation, resulted in a 17-item instrument comprising three dimensions: Respect for Parents, Obedience to Parents, and Maintaining Parents' Trust. The findings provide evidence that the instrument possesses satisfactory content validity, construct validity, discriminant validity, and acceptable construct reliability, indicating that it is appropriate for assessing youth devotion within the context of Javanese families. The findings also demonstrate that the empirical factor structure differs from the initial conceptual framework, suggesting that the manifestation of youth devotion in Javanese culture is organized into three interrelated yet distinct dimensions. This result highlights the importance of developing culturally grounded psychological instruments rather than directly adopting theoretical models developed in different cultural contexts. Accordingly, the present study contributes to the advancement of indigenous psychological

measurement by providing an empirically validated instrument that reflects the unique characteristics of Javanese filial values. Although the instrument demonstrated overall satisfactory psychometric performance, the Maintaining Parents' Trust dimension showed relatively lower convergent validity and reliability than the other dimensions. Therefore, future studies are recommended to refine this dimension by developing additional indicators, conducting cross-validation using more diverse and representative samples, examining measurement invariance across demographic groups, and evaluating test-retest reliability. These efforts are expected to further strengthen the psychometric properties of the instrument and broaden its applicability in developmental, family, and cultural psychology research.

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