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Psychometric properties of the Interpersonal Support Evaluation List (ISEL) in the Indonesian cultural context

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ABSTRACT

Background: Social support is a key psychological construct that has been widely examined across various research contexts. Cohen's theory of social support underlies the development of the Interpersonal Support Evaluation List (ISEL-40), which measures perceived social support. Although the ISEL-40 has been translated into several languages, empirical validation of its full version in the Indonesian context has been limited and methodologically constrained in prior studies.
Purpose: This study aims to illuminate the psychometric properties of the Indonesian version of the ISEL-40.
Method: This study involved 600 respondents from the Central Java Province and the Special Region of Yogyakarta, language and culture adjustments, and reliability analyses using Cronbach's Alpha, Confirmatory Factor Analysis (CFA), and Multidimensional Scaling (MDS).
Findings: The results indicate that the Indonesian ISEL-28 demonstrates adequate reliability and construct validity. The overall Cronbach's alpha was .910, while CFA results showed acceptable model fit (RMSEA = .079; RMR = .050).
Implication: The validated Indonesian ISEL-28 supports culturally relevant research and practice and provides a foundation for future cross-cultural studies in Indonesia.

KEYWORDS
CFA; ISEL-40; social support; psychometry; culture

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Introduction

Social support is essential because it can affect a person's mental and physical well-being. Social support can help a person overcome life's challenges. Thoits (2011) explains that social support from the surrounding environment is associated with a person's mental and physical health conditions, namely by reducing stress levels. Reducing stress levels can impact a person's quality of life (Lakey & Cohen, 2000).

Social support is a resource provided by others that can help reduce stress. Thossamas et al. (2021) define social support as a combination of two words: social, which means a relationship between two or more individuals, and support, which means holding or providing something to meet the needs of others. Therefore, there is a recipient of social support. Social support can be beneficial and positively affect recipients going through stressful life situations (Cohen & Hoberman, 1983; Cohen et al., 1985). Recipients generally report improved coping capacity and psychological well-being as a result of this support.

Cohen et al. (1985) explained that social support consists of four forms: practical support, information, self-esteem, and a sense of belonging. Practical support, in the form of real or direct support, includes assistance in the workforce, time, finances, materials, and daily needs. In the form of aid, information support helps individuals better understand stressful events and provides a range of coping strategies to address them. Self-esteem support involves building self-

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esteem, self-confidence, and feelings of worth, as well as positive feelings about oneself compared to others. Support for a sense of belonging, in the form of trust, attention, affection, listening, and being heard.

The importance of social support for mental health in improving well-being lies in its ability to reduce stress. In the study by Reblin and Uchino (2008), social and emotional support are related to health and well-being, as well as to stress and quality of life. This study is strengthened by the meta-analysis study of Holt-Lunstad (2018), which shows that social support is associated with reduced stress and improved quality of life. Southwick et. al (2016) and Holt-Lunstad (2018) confirmed that social support can increase resilience to stress.

Social support in Indonesia is measured through various instruments developed and adapted in other cultural contexts. However, existing studies have not explained the translation and adaptation process in the context of Indonesia's language and culture. Social Support Questionnaire (SSQ), developed by Sarason et al. (1983), assesses two dimensions of social support, quantity and satisfaction, through 27 paired items. For example, organizational and academic applications in Indonesia have employed the SSQ in studies examining the effects of friend support on college adjustment. The Multidimensional Scale of Perceived Social Support (MSPSS) by Zimet et al. (1988) evaluates perceived support from family, friends, and significant others. Its Indonesian version, validated using Rasch modeling with marine cadets (N = 495), demonstrated excellent internal consistency (person–item interaction index = .85), unidimensionality, and absence of gender bias. Additionally, among adolescent disaster survivors in Yogyakarta (N = 299), the Indonesian MSPSS maintained the original three-factor structure, demonstrated high composite reliability (> .70), and exhibited configural, metric, and scalar invariance across gender.

Despite these validations, neither the SSQ nor MSPSS has documented adaptation processes thoroughly contextualized to the Indonesian language and culture, and both instruments are narrower in scope, depicting only two dimensions (SSQ) or three social sources (MSPSS). In contrast, the Interpersonal Support Evaluation List (ISEL-40) offers a broader conceptualization of social support across four domains: appraisal, belonging, tangible, and self-esteem support, providing a more multidimensional perspective. The ISEL-40 has not yet been systematically adapted or validated in the Indonesian context. Therefore, this study prioritizes the translation, cultural adaptation, and psychometric evaluation of the ISEL-40 to fill this gap and enhance measurement comprehensiveness in the Indonesian setting (Lestari et al., 2023).

ISEL-40, a social support instrument developed by Cohen and Hoberman (1983) and Cohen et al. (1985) consisting of 40 items, has been used in several studies in Indonesia after informal translation. Several previous studies, such as those conducted by Akerina and Wibowo (2022), Fitri (2024), Ghesquiere et al. (2017), Peristianto and Lestari (2018), and Trisnadewi (2024), used this scale and reported Cronbach's Alpha reliability ranging from .824 to .881. However, these studies did not explain the psychometric properties or cultural suitability of the ISEL-40 in the context of Indonesian society.

Efforts to adapt the ISEL scale into short versions (12 and 16 items) have been carried out by Rahmanto (2024) and Hidayati et al. (2024). However, they have not yet reached the full scope of the original construct. Meanwhile, research by Hotmauli et al. (2024) is one of the few studies that test the psychometric properties of the full version of the ISEL-40 (40 items). However, it has methodological limitations because it only involved 58 adolescent participants. The small and homogeneous sample size may introduce statistical bias and limit the generalizability of the findings, particularly to individuals in early, young, and older adulthood. Generalizability across these age groups is crucial because the experience and perception of social support can vary significantly with developmental stage. For example, early adulthood is often characterized by identity exploration and peer-related support, young adulthood by career and family transitions, and older adulthood by increased reliance on community and familial networks. Without

adequate representation from these groups, the applicability of psychometric findings is constrained (Averitt, 2021; Nunan et al., 2018; Riener et al., 2020). This limitation underscores the need to test the ISEL-40 with a larger, more diverse sample to ensure its validity and reliability across different lifespan stages.

This condition indicates an essential gap in the literature regarding the validity and reliability of the empirically and contextually validated Indonesian version of the ISEL-40 scale. Therefore, this study aims to examine the psychometric properties of the ISEL-40 scale in the Indonesian cultural context, involving 600 participants of various ages and genders. This study is expected to contribute significantly to the development of a social support measurement tool that is construct-valid, reliable, and culturally appropriate.

Method

Procedure

Psychometric property analysis begins with expert reviews, content validity, internal consistency testing (item discrimination power), item validity, multidimensional validity, reliability using the Cronbach's Alpha technique, and Fit Model Index, as well as external validity. All analyses were conducted within the Classical Test Theory framework, which evaluates test quality at the scale and construct level. Within this framework, Corrected Item-Total Correlation was used to indicate internal consistency. While this approach is common in Classical Test Theory, it is acknowledged that it assumes interval-level data and normal distribution, which may not fully align with the ordinal nature of Likert-scale responses (Zumbo & Zimmerman, 1993).

Content validity testing was conducted through professional judgment using Aiken's V formula to assess the degree of agreement among experts regarding the relevance of each item. This method was selected because it is widely applied in the initial stages of instrument development to quantify inter-rater agreement in content validity studies (Azwar, 2015). However, it is acknowledged that Aiken's V has limitations, as it does not evaluate the psychometric quality of individual items, nor does it account for potential bias, severity, or leniency among raters (Zamanzadeh et al., 2015).

Internal consistency testing uses the Corrected Item-Total Correlation, with a value greater than 0.3 (Azwar, 2012). In two stages, item validity is assessed using a confirmatory factor analysis (CFA) approach. Reliability testing of measuring instruments using Cronbach's Alpha is considered reliable if it reaches a value≥ .700, and the closer it is to 1.00, the higher the reliability (Azwar, 2015). A second-order analysis is carried out to determine the Fit Model Index.

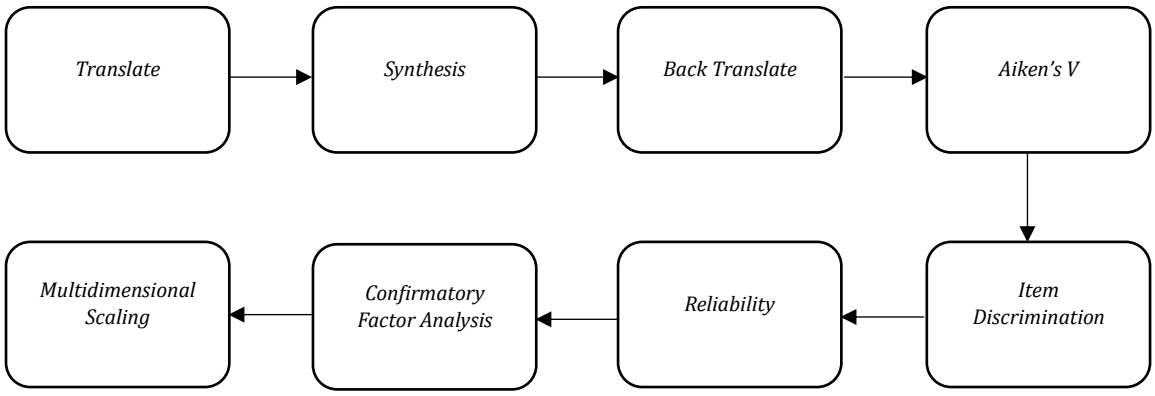

Figure 1. The social support scale adaptation test process was developed by the authors based on the adaptation stages proposed by Beaton et al. (2000), with modifications to reflect the specific procedures used in this study, and informed by Byrne (2005), Putnick and Bornstein (2016), and AERA, APA, NCME (2014).

The adaptation procedure of the social support scale followed the steps proposed by Beaton et al. (2000), including translation, synthesis, back translation, expert evaluation, target population testing, and a pilot study to assess validity and reliability. In this process, two validators played distinct roles. A native Indonesian speaker with advanced English proficiency reviewed the initial translation to ensure linguistic clarity and cultural appropriateness for Indonesian respondents. Conversely, a native English speaker with fluency in Indonesian conducted the back-translation into the original language, aiming to verify semantic equivalence with the source items. These validators ensured the translation's accuracy and the adapted instrument's conceptual equivalence. Their work provided complementary perspectives: one focused on readability and cultural relevance in Indonesian, while the other focused on fidelity to the original English version.

Evaluation of synthesis results was consulted with validators, who have experience in social support research, and with psychometric experts to adjust the content to the construct of social support, as well as the format and response options. The target subjects were evaluated in a readability test, namely by providing measuring instruments to several participants with characteristics similar to those of the target subjects. After several revisions to the instrument, we conducted a pilot study by distributing it to 30 participants. This aimed to ensure that the language used was unambiguous, and the instructions for completing the scale could be understood and carried out correctly by the target participants. Based on the evaluation and pilot study, participants understood the language and content of the adapted social support scale items. Participants' feedback focused more on the sentence structure than on changing the meaning.

The next stage is to conduct an item-discrimination test to determine how each item distinguishes between owned and unowned subject responses for each indicator measured. Furthermore, a reliability test is carried out to measure the consistency of the measuring instrument when it is repeated under the same conditions.

CFA is also used to determine the accuracy of each indicator representing aspects and variables, as well as the indicators and aspects to be measured. Items that can be valid in this analysis have a loading factor≥ .30. CFA is run in SPSS AMOS 24, which displays the loading factor results. The last stage is to conduct a multidimensional test to measure whether each indicator is closely related.

Participants

Participants in this study were recruited through an online survey distributed via Google Forms. The survey link was shared through community networks and social media platforms; however, participation was restricted to individuals who met predetermined inclusion criteria: being between 17 and 59 years of age and residing in Central Java Province or the Special Region of Yogyakarta (DIY). Six hundred individuals (395 women and 205 men) who met these criteria voluntarily completed the survey. Data were collected over two months (June–November 2023) using a cross-sectional design. Although the survey link was widely disseminated, the selection process used purposive sampling, including only participants who met the specified demographic requirements. The participants' demographic background was quite diverse in terms of age and gender. More complete demographic data is shown in Table 1.

The overrepresentation of respondents aged 20–29 (74.5%) is likely due to online survey distribution methods, which tend to reach younger and more digitally active populations. This sampling pattern should be considered when interpreting the generalizability of the findings.

Instruments

This study uses the multidimensional ISEL-40 scale compiled by Cohen & Hoberman (1983), which describes one concept: social support. This scale consists of 40 items that measure

four aspects: appraisal support, tangible support, self-esteem support, and belonging support, consisting of favorable and unfavorable items.

In avoiding answers that lead to specific responses, the social support scale also includes items that reveal negative emotions. However, the answer format still follows the original version, with 4 choices and a score of 1 to 4. The higher the score, the higher the level of social support in the subject, while the lower the score, the lower the level of social support in the subject. Permission to adapt and use the ISEL-40 was obtained from the copyright holder, ensuring compliance with intellectual property rights.

The Interpersonal Support Evaluation List (ISEL-40) has demonstrated extensive empirical use across diverse research contexts. In recent years, the instrument has been directly employed in multiple studies examining social support in relation to mental health outcomes, including studies by Costeris & Petridou, (2025), Kristama et al. (2025), Sadaghiyan et al. (2025), and Jarnecke et al. (2022), which applied the original ISEL-40 to adult and university student populations in different cultural settings. These studies confirm the continued relevance and functional stability of the ISEL-40 in contemporary psychological research. In addition to direct use, the ISEL-40 has been adapted cross-culturally and applied to specific populations. Aftyka et al. (2019) adapted this instrument to groups of mothers with healthy children and mothers with children who had a medical history, demonstrating the acceptability of the ISEL-40 functional structure in the context of parenting and family health. Furthermore, Bello et al. (2022) ISEL-40 was tested on a population of female students in Nigeria and reported adequate validity and reliability in a cross-cultural context. In the Indonesian context, Hotmauli et al. (2024) the ISEL-40 was adapted for adolescents aged 12–23 years and confirmed the validity of the four dimensions of social support.

Data Analysis

Item validity analysis was conducted using a CFA approach. The analysis technique used is mediation path analysis to calculate CFA using the SPSS AMOS 24 program. Confirmatory analysis was conducted in two stages: first-order and second-order. The researcher confirmed the indicator with the aspect in the first-order stage. In the second-order analysis, the researcher first confirmed the indicator to the aspect, then moved to the primary attribute.

According to Hair et al. (2014), convergent validity can be seen from the loading factor value, where a good factor load value is .4, but the loading factor of .5 to .7 is considered ideal (Hair et al., 2014). On the other hand, the CFA analysis criteria are valid if the loading factor is> 0.30, based on the number of samples used. This study uses a minimum loading factor of 0.30 because the sample size is above 350. Hair et al. (2012) stated this based on the number of samples, as shown in Table 2. CFA was employed to examine construct validity and the degree to which observed data fit the hypothesized factor structure. While CFA is effective for testing model fit and construct representation, it does not assess item-level statistics such as difficulty, discrimination, or item bias. These limitations are recognized and taken into account when interpreting the results. Prudon (2015) notes that model fit indices can be misleading because CFA may provide limited insight into item quality and can mask misfit due to overfitting via modification indices. Ropovik (2015) research indicates that CFA fit statistics, such as the chi-squared test and approximate fit indices, including the root mean square error of approximation (*RMSEA*) and the comparative fit index (*CFI*), are sensitive to sample size and model specification. This could compromise the validity of interpretations. Other concerns include that CFA relies on strict assumptions about normality and accurate model specification. Violations of these assumptions can result in biased estimates (Nye, 2023). To address these limitations, we complement CFA with additional validation steps, such as measurement invariance testing, to strengthen the robustness of our instrument validation.

Table 1.
Validity Criteria

Loading Factor	Number of Samples
.30	350
.35	250
.40	200
.45	150
.50	120
.55	100
.60	85
.65	70
.70	60
.75	50
Total (.30)	350

*Note***.** Based on the sample size in this study (N = 600), the minimum acceptable loading factor is .30 (Hair et al., 2014).

Therefore, in this study, item validity decisions were based on a minimum standardized factor loading of .30, in accordance with Hair et al. (2012), given the large sample size. Higher loading thresholds (≥.40 or ≥.50) were considered indicative of stronger convergent validity but were not used as exclusion criteria. Table 1 is presented to clarify the rationale for selecting the loading cutoff used in this study based on sample size. Based on the criteria for model eligibility and item validity, according to Subchi et al. (2024), the model is deemed to meet the goodness-of-fit requirements if the p-value is greater than 0.05. The *RMSEA* (Root Mean Square Error of Approximation) is less than .05. Meanwhile, to confirm the item's validity, a t-value is required on the coefficient or estimate that exceeds 1.96, and the coefficient or estimate value must show a positive value.

Result

The study showed that most respondents were female (65.8%), while male respondents accounted for 34.1%. Regarding age, the majority were in the 20–29 years age range (74.5%), followed by those under 20 years (18%), and the smallest proportion was respondents aged 30 or older. This age distribution is likely related to the data collection method, as the instrument was distributed electronically. Younger respondents, particularly those under 30, tend to be more familiar with and responsive to online surveys than older age groups. Details of this age distribution are presented in Table 2.

Table 2.
Demographic data of participants

Category	Frequency	%
Gender		
Male	205	34.17
Female	395	65.83
Age (year)		
10-19	108	18.00
20-29	447	74.50
30-39	34	5.67
40-49	8	1.33
50-59	3	.50
Total	600	100

*Note***.** N = 600 participants, indicating the distribution of participants across gender and age categories.

Although there is an imbalance in age distribution, most respondents are under 40 years old. Therefore, this sample is considered representative enough to describe the general productive-age population. In addition, the distribution of respondents is also influenced by the online questionnaire distribution method, which tends to be more easily accessible to young and productive age groups.

Content Validity

Based on content validity testing using Aiken's V coefficient, the assessment was conducted by three experts selected for their academic experience and professional practice in psychometrics, social, and clinical psychology. The experts were asked to evaluate 40 items on the social support scale, considering the appropriateness of the construct, language clarity, and relevance to the measurement objectives. The analysis showed that Aiken's V coefficient ranged from .92 to 1.00, indicating a very high level of agreement among the experts regarding the relevance of the items. Although these findings provide strong preliminary evidence of the instrument's content validity, expert-based content validity indices have inherent limitations, particularly because they depend on the number and characteristics of the experts involved. As noted by Zumbo (2007) and in the Standards for Educational and Psychological Testing (AERA, APA, & NCME, 2014), content validity represents only one source of evidence. It cannot, on its own, confirm the psychometric quality of the items. Aiken's V is based solely on expert judgment and does not evaluate empirical properties such as factor structure, item discrimination, or how well items function across diverse populations. Moreover, expert ratings are susceptible to conceptual and contextual biases, as the outcomes depend on the experts' backgrounds, construct interpretations, and cultural contexts (Zumbo, 2007; Zumbo & Chan, 2014). Therefore, to address these limitations and align with a modern, unified validity framework, additional analyses, specifically CFA, were conducted to examine the dimensionality and statistical performance of the items within the Indonesian context.

Table 3.

Distribution of items before testing the discriminant power and reliability

No	Component	Valid Items		Number of Items
		Favorable	Unfavorable	
1	Appraisal Support	1, 19, 22, 26, 38	6, 11, 17, 30, 36	10
2	Tangible Support	2, 16, 18, 23, 33	9, 14, 29, 35, 39	10
3	Self-Esteem Support	4, 8, 20, 32, 37	3, 13, 24, 28, 40	10
4	Belonging Support	5, 7, 12, 21, 31	10, 15, 25, 27, 34	10
	Total	20	20	40

*Note***.** The table shows the distribution of favorable and unfavorable items across the four dimensions of the ISEL-40 before item discrimination and reliability testing.

Internal Consistency Testing

The instrument in the initial stage consisted of 40 items. Through a series of item-refinement processes, including content and construct validation, 28 items were retained as the final version of the social support scale. Therefore, all reliability analyses in this study were conducted using the final 28 items, based on an internal consistency approach. The test results showed that Cronbach's Alpha coefficient was .910, indicating a high level of internal consistency. According to the Standards for Educational and Psychological Testing (AERA, APA, & NCME, 2014), internal consistency estimates such as Cronbach's Alpha provide evidence of score reliability, an essential technical quality supporting the validity of test score interpretations.

Confirmatory Factor Analysis

First order

The CFA results in the initial stage showed that of the 31 items analyzed, all items had factor loadings above .30, indicating that these items were empirically adequate for measuring the construct under study. However, testing the first-order measurement model on 31 items showed an inadequate model fit, with a χ^2 value of 2117.945 (*df* = 428; *p* < .001), *RMSEA* = .080 (*CI* 90% = .077–.084), *RMR* = .052, *CFI* = .71, and *NNFI* = .67.

The researchers then conducted a further evaluation of the factor loading values for each item (Figure 2), which showed that most items had fairly good loading values, ranging from .33 to .70. Although factor loadings of .30–.34 are still statistically acceptable (Furr, 2021), the failure to meet the model fit index prompted the researchers to refine the model. Therefore, the three items with the lowest factor loadings were eliminated, namely item 4 (self-esteem support = .34), item 7 (sense of belonging support = .34), and item 32 (self-esteem support = .33).

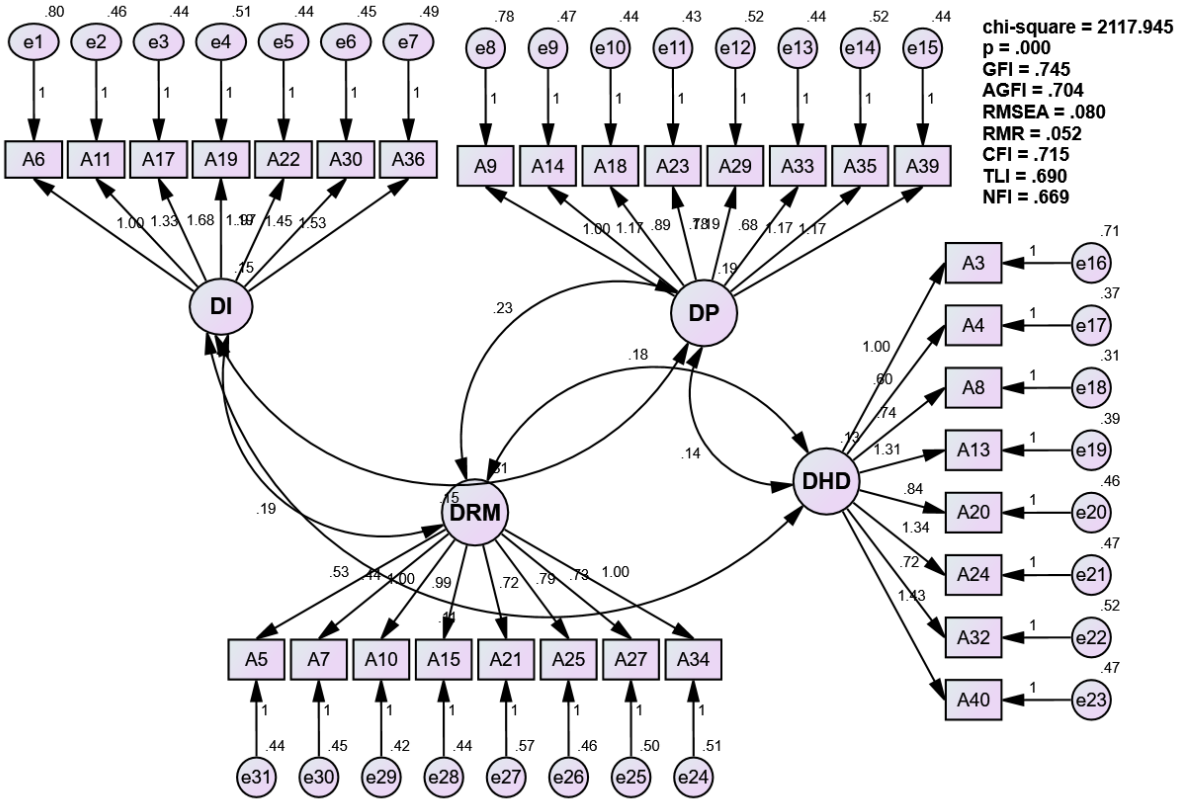

Figure 2. *Model fit first-order CFA*

Second-order confirmatory factor analysis

Second-order Confirmatory Factor Analysis (CFA) was conducted on the 28 final items, all of which had factor loadings above .37. The results of the second-order CFA showed that the model had an acceptable level of fit with the empirical data, as indicated by a χ^2 value of 1659.946 (*df* = 344; *p* < .001), *RMSEA* = .079 (90% *CI* = .075–.083), *RMR* = .050, *CFI* = .76, and *NNFI* = .712. The *RMSEA* and *RMR* values are within the recommended range, although the RMSEA is close to the upper limit of .080, indicating that the model remains empirically acceptable.

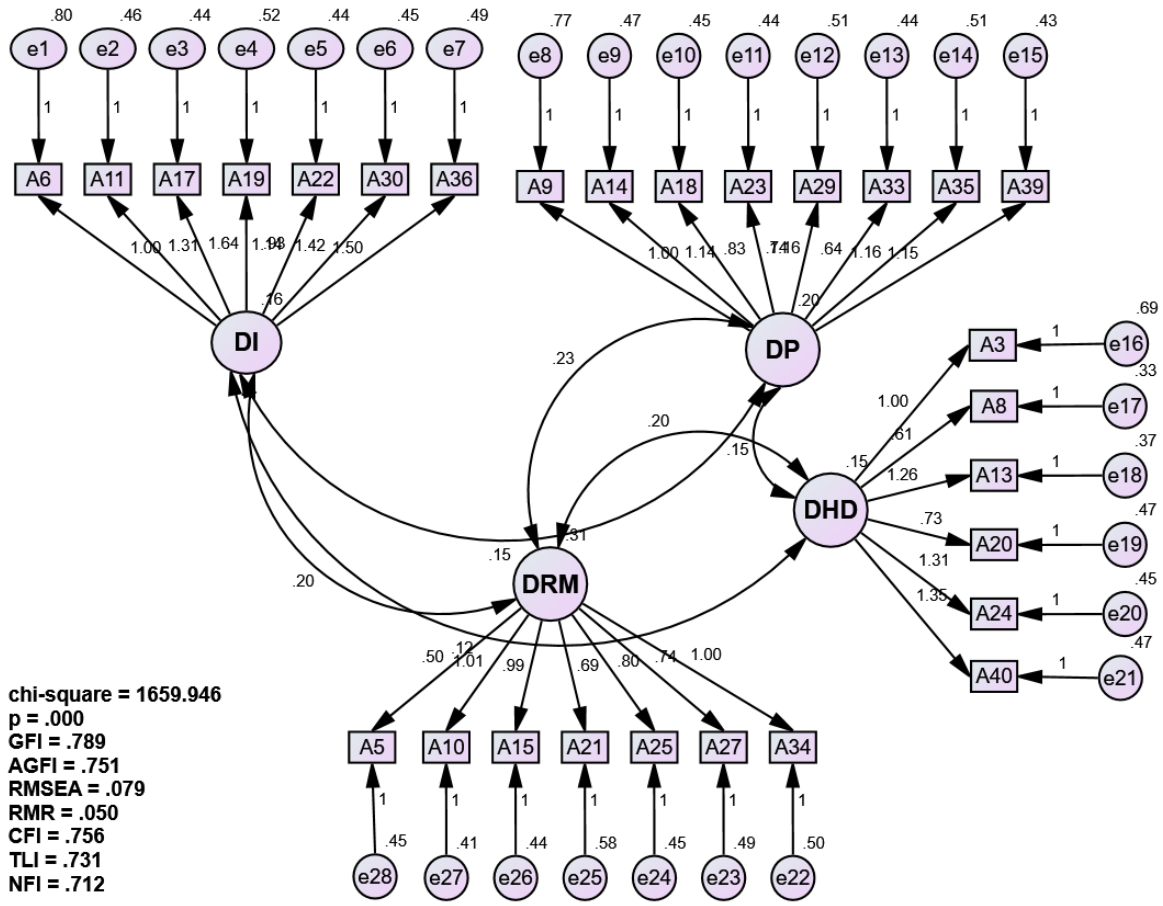

Figure 3. *Model fit second-order CFA*

The item factor loadings on the social support scale ranged from .375 to .705. There was one item with the lowest factor loading of .375, which was retained because the model as a whole met the goodness-of-fit criteria, particularly given the *RMSEA* (≤ .08) and *RMR* (≤ .10) values. Thus, although some incremental fit indices, such as *CFI*, were relatively low, the model was retained due to the construct's theoretical relevance and the fulfillment of the main absolute fit criteria.

The results of the scale trial showed excellent psychometric properties with a Cronbach's alpha coefficient value of .910, meaning that the social support scale from Cohen et al. (1985), which has been adapted into Indonesian by Akerina and Wibowo (2022), Fitri (2024), Ghesquiere et al. (2017), Peristianto and Lestari (2018), and Trisnadewi (2024). In addition, the social support scale items have item coefficients ranging from .309 to .577, indicating that each item contributed adequately to the measurement of the construct. Therefore, it can be concluded that this social support scale is construct valid and internally reliable, making it suitable as a measurement tool in this study.

Multidimensional Scaling (MDS)

The next test was multidimensional validity, which assesses whether the social support scale adequately captures various aspects. This study's categorization and interpretation of validity evidence follow the framework outlined in the Standards for Educational and Psychological Testing (AERA, APA, & NCME, 2014), emphasizing the importance of internal structure and interrelation among dimensions as indicators of construct validity. The detailed results of this analysis are presented in Table 5.

The inter-aspect correlation test of the social support scale yielded r values ranging from .679 to .772. These findings provide preliminary evidence of consistency across aspects of the

primary construct, thereby supporting validity based on internal structure, as outlined in the Standards for Educational and Psychological Testing (AERA, APA, & NCME, 2014). According to these standards, internal structure evidence is established by analyzing the relationships among test components to evaluate their alignment with the construct's conceptual framework. To further strengthen this evidence, a second-order CFA was conducted to test the fit of a multidimensional model consisting of four aspects, appraisal support, tangible support, self-esteem support, and belonging support, within the broader construct of social support. The CFA results confirmed that these four aspects significantly contributed to the second-order construct, reinforcing the scale's validity in line with current testing standards.

Table 4.
Multidimensional validity criteria

Value	Criteria
.80 < rxy < 1.00	Very high validity (very good)
.60 < rxy < .80	High validity (good)
.40 < rxy < .60	Validity is moderate (sufficient)
.20 < rxy < .40	Low validity (less)
.00 < rxy < .20	Very low validity (bad)
rxy < .00	Invalid

Note. The table presents the interpretation criteria for correlation coefficients (rxy) used in the multidimensional validity analysis of the instrument.

The results of the multidimensional validity test using the internal consistency correlation approach show that the appraisal support aspect has an r value in the high validity category and is the highest among the other aspects. In addition, the results of the multidimensional validity for the tangible support aspect have an r value in the high validity category, but not higher than that of the appraisal support aspect, and higher than the multidimensional validity values of the Self-esteem support and belonging support aspects. Meanwhile, the results of the multidimensional test for the self-esteem support aspect obtained the lowest r value of the other aspects, but still met the high validity criteria. This means the social support measurement instrument can assess appraisal support, tangible support, self-esteem support, and belonging support. The results of the multidimensional validity test for the social support scale are presented in more detail in Table 5.

Table 5.
Results of the multidimensional validity test of the social support scale

Aspect	Value *r*
Appraisal Support	.772
Tangible Support	.753
Self Esteem Support	.679
Belonging Support	.743

*Note***.** The r coefficients represent the correlations between each dimension and the overall construct of social support, indicating the scale's multidimensional validity.

The constructs that have been tested and meet the criteria of the multidimensionality test will be further analyzed using second-order CFA. This analysis was repeated to evaluate the overall suitability of the final model for the social support scale, consisting of four aspects and 28 items. The second-order CFA model was conducted to empirically confirm the social support construct as a second-level latent construct, using the aspects validated in the previous analysis.

Table 6.
Item distribution after Multidimensional and Second Order tests CFA

No	Component	Valid Items		Number of Items
		Favorable	Unfavorable	
1	Appraisal Support	19, 22	6, 11, 17, 30, 36	7
2	Tangible Support	18, 23, 33	9, 14, 29, 35, 39	8
3	Self Esteem Support	8, 20	3, 13, 24, 40	6
4	Belonging Support	5, 21	10, 15, 25, 27, 34	7
	Total	9	19	28

Note. The table displays the final distribution of valid items across the four dimensions of social support after the multidimensional validity and second-order CFA analyses.

The CFA results indicated that all items across the four ISEL-28 aspects met the minimum factor-loading criteria. Specifically, seven items in the Appraisal Support aspect showed loadings above .408, eight items in Tangible Support above .396, six items in Self-Esteem Support above .375, and seven items in Belonging Support above .450, with one additional item at .380 retained for its conceptual relevance. According to the principles of Classical Test Theory and CFA guidelines (Hair et al., 2014), these values demonstrate that the items contribute adequately to their respective constructs, thereby supporting the scale's internal structure.

A Multigroup Invariance

Hajek et al. (2016) and Davis et al. (2018) show that social support is experienced and interpreted differently by men and women, and that these differences are significant. These findings confirm that gender is an important factor in the experience of social support. In line with this, empirical differences between genders may influence how individuals respond to items on social support instruments, making it necessary to test for measurement invariance. In line with these findings, Wang et al. (2021) reported that although there are differences in the level of social support between men and women, the instrument's measurement structure still shows cross-gender invariance, thus enabling valid and meaningful comparisons between groups.

A multigroup invariance test based on gender was conducted to examine whether the social support scale demonstrates equivalent measurement properties across male and female groups. The configural model yielded acceptable fit indices (*CFI* = .901, *RMSEA* = .068, *SRMR* = .052), indicating that both groups conceptualize social support structure similarly. This supports configural invariance, suggesting a consistent factorial structure across genders. However, a decrease in *CFI* of -.011 was observed at the metric level, along with slight increases in *RMSEA* (.002) and *SRMR* (.020). The ΔCFI exceeded the recommended cutoff of -0.01, indicating a lack of full metric invariance. This suggests that some items may be interpreted or weighted differently by males and females. The scalar invariance test showed a further decrease in *CFI* to -.019, indicating differences in item intercepts between groups. At the strict level, although Δ*CFI* remained at the critical threshold (-.010), the changes in *RMSEA* and *SRMR* were minimal. Overall, the results suggest that the social support scale only meets the criteria for configural invariance. Therefore, while the general factor structure is consistent across genders, comparing scores between male and female participants may not be appropriate without accounting for potential measurement non-invariance.

Table 7.
Table of multigroup invariance testing results based on gender

Invariance Testing	Chi Square	Significance (P)	CFI	RMSEA	SRMR	ΔCFI	ΔRMSEA	ΔSRMR	Interpretation
Configural	553.133	.001	.901	.068	.052				
Metric	601.934	.001	.890	.070	.072	-.011	.002	.020	Reject
Scalar	677.665	.001	.871	.073	.074	-.019	.003	.002	Reject
Strict	728.998	.001	.861	.074	.078	-.010	.001	.004	Reject

Note. Measurement invariance across gender was examined using multigroup CFA. Model comparisons were evaluated using changes in CFI, RMSEA, and SRMR indices.

After a series of validity and reliability analyses, Table 8 presents the final distribution of social support scale items and the recommended item numbers for use in the Indonesian measurement context. This table illustrates the distribution of items across each verified dimension, which can be used as a reference in compiling the final instrument based on the factor structure obtained from the CFA analysis and the multidimensionality test results.

Table 8.
Planning the distribution of 28 items with new numbering

No	Component	Valid Items		Number of Items
		Favorable	Unfavorable	
1	Appraisal Support	19(13), 22(16)	9(5), 11(7), 17(11), 30(22), 36(26)	7
2	Tangible Support	5(2), 18(12), 23(17), 33(23)	14(9), 29(21), 35(25), 39(27)	8
3	Self-Esteem Support	20(14)	3(1), 6(3), 13(8), 24(18), 40(28)	6
4	Belonging Support	8(4), 21(15)	10(6),15(10), 25(19),27(20), 34(24)	7
Total		9	19	28

Note. Numbers in parentheses indicate the new numbering of the retained 28 items.

Discussion

Following the adaptation and validation process, the Indonesian version of the ISEL retained 28 items. Therefore, the following discussion refers to the psychometric properties and cultural relevance of the Indonesian version of the ISEL-28, unless otherwise stated. In adapting psychological instruments such as the ISEL-28, it is essential to translate the instrument and perform *cultural adaptation* to ensure its validity locally (Beaton et al., 2000). This is particularly relevant in Indonesia, a country rich in cultural diversity, where social values and interpersonal norms may differ significantly from those in the Western cultural context in which the original instrument was developed.

The results of this study demonstrate that the Indonesian version of the ISEL-28 possesses adequate psychometric properties for assessing perceived social support among Indonesian adults. The four primary dimensions of the ISEL-28, tangible support, self-esteem support, appraisal support, and belonging support, were confirmed through factor analysis, although some items exhibited lower-than-ideal factor loadings. This is consistent with Cohen et al. (1985), who noted that social support constructs may exhibit minor structural variations across cultures.

These variations warrant further exploration in the context of Indonesian culture. As a collectivistic society, Indonesians value social harmony, self-restraint, and adherence to societal norms (Geertz, 1961; Mulder, 2001). In such a cultural framework, support is often communicated implicitly through presence and communal involvement rather than through explicit verbal

affirmation. This may affect participants' responses to certain ISEL-28 items that assume direct emotional or instrumental support expressions.

Cultural values also shape the psychological representation of interpersonal relationships. Notions such as *tepa selira* (empathy and tolerance) contribute to a tendency to avoid overtly expressing one's need for support. Previous findings by Bahrudin and Dari (2021) similarly found that emotional support in communities is often symbolic, communicated through gestures that convey care and solidarity without verbalization. As one of Indonesia's predominant cultural groups, it has unique characteristics in interpersonal relationships and perceptions of social support. Core values such as *rukun* (social harmony), *tepa selira*, and *ewuh pakewuh* (reluctance or social hesitance) strongly influence how individuals seek, interpret, and offer social support (Magnis-Suseno, 1997). In this cultural context, expressions of support tend to be implicit and indirect, in contrast to the more expressive and assertive norms typical of individualistic societies (Triandis, 1995).

Suppose the ISEL-28 is administered without accounting for these cultural differences. In that case, there is a risk of construct or item bias (Aftyka et al., 2019), in which respondents from specific backgrounds may not interpret items as intended by the original authors. For instance, direct support items, such as lending money or providing tangible help, may be seen as positive in Western cultures but could involve feelings of moral obligation or discomfort (*sungkan*) in other cultures (Geertz, 1983). This cultural lens is critical in understanding how society perceives and practices social support. In Indonesian culture, social support is often expressed subtly and indirectly, reflecting deeply rooted values. These values discourage overt expressions of need or assistance, promoting a more implicit and harmonious interaction (Magnis-Suseno, 1997; Mulder, 1996). For example, being physically present or offering non-verbal reassurance can be perceived as meaningful support. Direct assistance, such as giving money or explicit emotional comfort, may be avoided to prevent the recipient from feeling indebted or embarrassed, which are socially disruptive in norms (Geertz, 1961).

Additionally, community support is often collectivistic, embedded in social structures such as extended families, neighborhood associations, and community rituals. These communal mechanisms provide a sense of belonging and care without emphasizing individual transactions or emotional exposure. Spiritual elements also play a role, with supportive acts including shared prayer, religious advice (*pitutur*), or invitations to religious gatherings, which serve both emotional and moral functions. Given these culturally embedded meanings, it becomes clear that an instrument like the ISEL-28 must account for these nuances to measure perceived social support validly across populations. Without these considerations, researchers risk misinterpreting the extent or nature of support respondents experience, as conventional items may fail to capture culturally appropriate expressions of support.

Therefore, validating the Indonesian version of the ISEL-28 requires rigorous cultural adaptation. This includes content validation by local cultural experts, construct validity testing to align with collectivist interpretations of social support, and empirical testing within relevant cultural groups. Through this process, the Indonesian version of the ISEL-40 can achieve statistical reliability and sociocultural relevance.

Multigroup invariance analysis confirmed that the ISEL-28's factor structure is relatively stable across gender and age groups, indicating the universality of the construct across demographic subgroups. Nonetheless, the fit indices (e.g., *RMSEA*, *CFI*) suggest room for refinement. This could involve developing or adapting items that capture locally specific forms of support, such as religious encouragement, community-based care, or informal solidarity systems like "*kerja bakti"*, local mutual aid groups, or mosque-based activities.

In addition to the psychometric evidence obtained, this study's findings can be situated within contemporary perspectives that conceptualize social support as a dynamic, context-dependent resource shaped by cultural, social, and technological environments. Recent research

highlights that perceived social support is influenced by the interplay between offline relationships and digital social interactions, particularly among young adults whose networks span both realms (Kristama et al., 2025; Sadaghiyan et al., 2025; Liu, 2023; Longest & Kang, 2022; Taylor & Choi, 2024). Moreover, features of online environments such as asynchronicity, reduced social cues, and visual communication can transform relational processes and influence perceptions of support, belonging, and loneliness (Angelini & Gini, 2024; Đumić & Veljković, 2024; Liu, 2023; Magis- Weinberg et al., 2021). Given that the present sample primarily consisted of individuals aged 20–29 years, and data were collected online, these findings suggest that digitally mediated interaction contexts may shape how respondents interpret and respond to social support items, underscoring the importance of considering technological context in contemporary measurement.

Furthermore, recent empirical findings indicate that the multidimensional nature of social support remains robust across different populations, supporting the theoretical framework proposed by Cohen and colleagues. Studies conducted in the last five years confirm that dimensions such as appraisal, tangible, emotional, and belonging support consistently emerge as core components of perceived social support (Efthymiou et al., 2025; Sadaghiyan et al., 2025; Erlyani et al., 2024; Villalobos et al., 2021; Aloba et al., 2019). The present study aligns with these findings, as the four-factor structure of the ISEL-28 was successfully replicated through second-order CFA, indicating that the multidimensional conceptualization of social support remains valid in the Indonesian context.

However, the relatively moderate fit indices (CFI values below ideal thresholds) indicate that, although the general factor structure is supported, some refinement may still be warranted. Contemporary methodological literature emphasizes that CFA model fit should not be evaluated solely on rigid cut-off criteria but rather be interpreted alongside theoretical justification and contextual relevance (Nye, 2023; ,Parisse et al., 2025). This perspective is reinforced by recent cross-cultural validation studies demonstrating that multidimensional structures of social support such as appraisal, tangible, emotional, and belonging dimensions are consistently replicated across diverse populations, including Indonesian samples, albeit with nuanced variations that may require cultural adaptation or model refinement (Aloba et al., 2019; Martins et al., 2022; Rosellini & Brown, 2021; Villalobos et al., 2021). Within this framework, retaining items with slightly lower factor loadings in the present study can be justified on conceptual and cultural grounds, particularly for capturing context-specific expressions of support. Such an approach aligns with current psychometric perspectives that advocate balancing statistical adequacy with theoretical and contextual considerations in scale development and validation (Aloba et al., 2019; Martins et al., 2022; Efthymiou et al., 2025; Parisse et al., 2025)

Another important finding concerns the multigroup invariance analysis. While configural invariance was established, the lack of metric and scalar invariance indicates gender-based differences in the interpretation of social support items. This is consistent with recent multigroup CFA evidence showing that, although a common factorial structure may hold across groups, item loadings and intercepts often vary by gender, requiring partial invariance or model adjustments (Abiddine et al., 2021; García, Vázquez et al., 2020; Giolo et al., 2022; Parisse et al., 2025). Similar patterns have been reported across related instruments, suggesting that gender influences both item interpretation and comparisons of latent means (Lai & Boag, 2021; Lin et al., 2021; Lardier et al., 2022; Nagata et al., 2023). These findings, alongside evidence that gender differences in social support are both quantitative and qualitative (Wang et al., 2021), highlight the need for gender-sensitive indicators to improve measurement equivalence without compromising cross-group comparability (Lee & Jang, 2025; Park et al., 2024; Söderqvist & Larm, 2023).

Recent research underscores the importance of contextualizing social support within local social systems, particularly in collectivistic settings where support is embedded in informal networks, religious engagement, and communal practices rather than in individual exchanges

(Lateef et al., 2026; Goswami et al., 2025; Buenconsejo et al., 2024; Kumar & Sengupta, 2024; Lestari et al., 2023; Toscanelli et al., 2022). Evidence from Indonesian and broader cross-cultural contexts indicates that these locally grounded forms of support can influence item functioning and factor loadings, thereby affecting measurement equivalence and construct validity (Zong et al., 2023; Cardenas et al., 2021; Smith et al., 2019). This supports the present findings and highlights the need to incorporate context-sensitive indicators, such as community-based support and religious participation, to enhance ecological validity while maintaining cross-cultural applicability (Goswami et al., 2025; Buenconsejo et al., 2024; Toscanelli et al., 2022).

Overall, this study contributes to the growing body of cross-cultural psychometric research by demonstrating that while global constructs such as social support can be structurally replicated, their measurement requires careful contextual adaptation. Future studies are encouraged to employ mixed-method approaches, combining quantitative validation with qualitative exploration, better to capture the culturally embedded meanings of social support. Additionally, the use of advanced psychometric techniques such as Item Response Theory (IRT) may provide deeper insights into item-level functioning and further strengthen the measurement model.

Implication

It is also essential to recognize that the conceptualization of social support in Indonesia is shaped by historical and social patterns in which individuals rely heavily on extended family networks and informal social ties (Beugelsdijk et al., 2017; Triandis, 1995). Using an instrument developed in an individualistic Western context without cultural adaptation may lead to measurement bias (Van de Vijver & Leung, 2021). Therefore, while the ISEL-40 is generally valid, integrating indigenous social interaction and support forms could improve its ecological validity.

This study reinforces the importance of cultural adaptation in validating psychological instruments across cultures. Validation should go beyond literal translation to include semantic and conceptual alignment with the target culture. This supports Berry's (2002) *derived etic* approach, which combines universal constructs with culturally specific manifestations. Future research should develop ISEL-40 variants that incorporate localized values, such as spirituality, community participation, and informal support systems. Such efforts would enhance the cultural relevance of psychological assessments and increase their utility in psychosocial interventions within the Indonesian population.

Limitation

Despite its contributions, this study has several limitations. One notable limitation concerns the measurement invariance results, which showed that the social support scale achieved only configural invariance across gender groups. Although the general factorial structure of the construct appeared consistent between males and females, the lack of metric, scalar, and strict invariance suggests that the measurement model may not function equivalently across groups. This limits the validity of comparing mean scores of social support between genders, as differences in factor loadings, item intercepts, and residual variances may affect the interpretation of results. Another limitation relates to sample representativeness. Participants were recruited exclusively from Central Java Province and the Special Region of Yogyakarta, which limits the generalizability of the findings to the broader Indonesian population. Future studies should expand data collection to other regions of Indonesia and further explore gender-sensitive adaptations of the ISEL-40 to ensure more robust cross-group comparisons.

Although CFA provides strong evidence for construct validity and the overall fit of the measurement model, it has inherent limitations. CFA operates primarily at the construct and

instrument level, and therefore cannot fully evaluate item-level properties such as difficulty, differential item functioning, or bias. In addition, fit indices obtained from CFA offer only a general indication of model adequacy and may not capture more nuanced item characteristics. To address this limitation, the present study interprets CFA results within the framework of Classical Test Theory and complements them with item-total correlation and multidimensional validity analyses. Future research is recommended to employ alternative approaches such as Item Response Theory (IRT) or Rasch modeling, which allow more detailed item-level evaluation and can strengthen the psychometric evidence of the ISEL-40 in the Indonesian context.

Conclusion

This study aims to test the psychometric properties of the Indonesian version of the ISEL-40. The analysis results indicate that the structure of the social support scale, consisting of four aspects: appraisal support, tangible support, self-esteem support, and belonging support, can be consistently replicated in the Indonesian cultural context. This scale has demonstrated adequate construct validity and reliability, making it suitable as a measure of social support perception in the Indonesian population. The main contribution of this study is the availability of a standardized version of the ISEL-40, free of local cultural characteristics, thereby strengthening the scientific basis for measuring social support in social psychology. This scale can be widely applied in clinical settings, education, and social research to assess individuals' perceptions of the social support they receive. Further research is recommended to test external validity and invariance across more specific groups, such as age, gender, or social background, and explore the relationship between social support and various other psychological indicators. In addition, research also needs to be conducted in experimental or longitudinal settings to test the scale's sensitivity to changes in individual social conditions.

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