

Serenity in the Child-to-Youth Transition among Indonesian Students: A Rasch Validation and Gender Differences in the Brief Serenity Scale

Wahyu Eka Prasetyaningtyas^{1,2} , M. Muslihathi¹ , Henny Indreswari¹ , Aji Prasetya Wibawa¹ 
& Quan Zhang^{3,4} 

¹ Universitas Negeri Malang, East Java (Indonesia) ² Universitas Indraprasta PGRI, Jakarta (Indonesia) ³ Jiaxing University, Zhejiang (China) ⁴ School of Education, City University of Macau, SAR (China)

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Corresponding author:

Wahyu Eka Prasetyaningtyas
(wahyuekap91@gmail.com)
M. Muslihathi
(muslihathi.fip@um.ac.id)

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Abstract

Decisions in children's counseling play a critical role in shaping how young people learn to relate to the world; however, emotional and reflective practices such as serenity induction remain underrepresented due to the limited availability of culturally grounded assessment tools. Serenity is conceptualized as a form of reflective calm through which adolescents develop stability, meaning, and existential trust. The present study aimed to validate the Indonesian Brief Serenity Scale and to examine gender differences in experiences of serenity among high school students. Participants included 209 students in Study 1 ($M = 16.22$, $SD = 0.77$) and 1,111 students in Study 2 ($M = 15.51$, $SD = 1.80$). Rasch analysis supported a valid 13-item structure encompassing three dimensions: acceptance, inner haven, and trust. Adjustments for item misfit and gender-based differential item functioning were implemented to ensure measurement equity. Results indicated that male students reported higher levels of serenity related to resilience and present-focused coping, whereas female students reported greater inner calm and self-forgiveness. The validated scale provides a philosophically informed and culturally sensitive instrument for examining the emergence of serenity within the developmental transition from childhood to youth and for informing reflective approaches in educational and counseling contexts.

Keywords: brief serenity scale; child-to-youth transition; rasch analysis; gender differences; psychological resilience.

La serenidad en la transición de la infancia a la juventud en estudiantes indonesios: Validación Rasch y diferencias de género en la Escala Breve de Serenidad

Resumen

Las decisiones en el ámbito de la orientación psicológica infantil juegan un papel crucial en los modos en que los jóvenes aprenden a comprender el mundo. Sin embargo, prácticas emocionales y reflexivas, como la inducción de la serenidad, están poco incorporadas debido a la carencia de instrumentos culturalmente contextualizados. La serenidad se define como un estado de calma reflexiva mediante el cual los adolescentes desarrollan estabilidad, sentido y confianza existencial. El presente estudio tuvo como objetivo validar la Escala Breve de Serenidad de Indonesia y examinar las diferencias de género en las experiencias de serenidad en estudiantes de educación secundaria. La muestra estuvo compuesta por 209 estudiantes en el Estudio 1 ($M = 16.22$, $DE = 0.77$) y 1,111 estudiantes en el Estudio 2 ($M = 15.51$, $DE = 1.80$). El análisis Rasch confirmó una estructura válida de 13 ítems que representa tres dimensiones: aceptación, refugio interior y confianza. Se realizaron ajustes para ítems con desajustes y para el funcionamiento diferencial de los ítems según el género, con el fin de garantizar la equidad de la medición. Los estudiantes varones mostraron mayores niveles de serenidad asociados con la resiliencia y el afrontamiento centrado en el presente, mientras que las estudiantes mujeres reportaron mayor calma interior y niveles más elevados de autoperdón. La escala es un instrumento culturalmente sensible y teóricamente fundamentado para comprender cómo emerge la serenidad en el proceso de desarrollo desde la infancia hacia la juventud, y para apoyar prácticas educativas y de orientación basadas en la reflexión y el bienestar psicológico.

Palabras clave: escala breve de serenidad; transición de la infancia a la juventud; análisis rasch; diferencias de género; resiliencia psicológica.

Serenity is rooted in a philosophical framework often examined through a Heideggerian perspective, in which serenity, or *Gelassenheit*, as described in Heidegger's writings, relates to an internal state and a way of being in the technological age. This concept is closely connected to authenticity, care (*Sorge*), and the essence of *Dasein* (being-there or existence) (Chillón, 2018, 2020). Heidegger's view highlights that serenity is not about passivity or resignation, but rather involves active engagement and full presence in worldly life without becoming overly absorbed in it (Chillón, 2018; Martín de Blassi, 2022). Serenity is a state of stable inner calm that allows individuals to respond to life's disruptions or conflicts with meaningful composure. This reflects affective stability, wisdom in decision-making, and a deep sense of spiritual connectedness, especially during uncertain times. Serenity is not just passive calm; it is a reflective response to difficult life experiences that helps pursue personal meaning and connection with transcendent forces (Floody, 2014; Roberts & Aspy, 1993; Roberts & Cunningham, 1990). This philosophical approach provides the basis for operationalising the concept of serenity in psychological measurement.

Roberts and Aspy (1993) identified ten essential attributes that describe serenity, namely: (1) the ability to connect with an inner haven of peace and security; (2) the ability to detach from excessive desires and emotions; (3) the capacity to accept situations that cannot be changed; (4) the habit of actively seeking all reasonable ways to solve problems; (5) the ability to let go of the past, not worry about the future, and live in the present; (6) forgiving oneself and others; (7) a sense of connectedness and belonging; (8) giving of oneself unconditionally; (9) trusting in a power greater than oneself; and (10) maintaining a perspective on the importance of oneself and life events. The attributes of serenity formulated by Roberts and Aspy (1993) not only represent measurable psychological indicators but also can be understood as empirical expressions of the attitude of "letting-be" and existential openness, which form the core of *Gelassenheit*. This approach bridges philosophy and psychological measurement by positioning serenity as a construct that can be observed through inner experience, reflective attitude, and individuals' response patterns to everyday life (Chérif et al., 2022; Floody, 2014).

The focus on serenity has become increasingly significant and widespread in nursing due to its potential to address key issues faced by both patients and healthcare workers. It has also been used as a non-drug intervention (Marinelli et al., 2023). To date, little attention has been given to serenity, as Mileski et al. (2024) highlight the lack of awareness or understanding of how this concept can be applied outside nursing contexts. In nursing, serenity is a state of inner balance that helps patients accept and cope with their life situations, especially among older patients, those with long-term conditions, and individuals receiving end-of-life care (Roberts & Messenger, 1993; Roberts & Whall, 1996). Although serenity is often associated with calmness, this construct needs to be clearly distinguished from temporary affective calmness, physiological relaxation, or hedonic well-being. Transient affective calm reflects a peaceful, relaxed state at a specific moment, usually measured with a mood scale before and after an intervention such as meditation or music (Dib et al., 2020; Lehrer et al., 1983). Next, physiological relaxation focuses on body indicators such as decreases

in heart rate and blood pressure, increases in heart rate variability, and changes in EMG, skin, or brain waves that reflect parasympathetic dominance (Amihai & Kozhevnikov, 2014; Naismith et al., 2023). The last is hedonic well-being, which is a pattern of pleasurable experiences in life: many positive emotions, few negative emotions, life satisfaction, and daily happiness (Zhang et al., 2024).

However, recent research has shown that the study of serenity is gradually extending beyond nursing, especially among youth populations. Serenity has also become an essential element in compassion-focused therapy for children and adolescents exhibiting high levels of anxiety and depression (Ryynanen et al., 2023). Additionally, a study by Oyanadel et al. (2021) demonstrated that serenity-based intervention programmes grounded in time perspective theory resulted in a 41% reduction in suicidal ideation among adolescents and showed potential for enhancing their quality of life and physical health. Prior research has also indicated that serenity is a distinct predictor of lower stress levels and increased psychological well-being, even when controlling for mindfulness. Although mindfulness is widely recognised for its role in reducing stress and improving well-being, empirical evidence suggests that serenity has a unique influence. The evidence indicates that serenity is not merely a consequence of mindfulness but a separate psychological construct with its own mechanisms of impact, which cannot be entirely explained by mindfulness (Soysa et al., 2021).

Over more than three decades, Roberts and Aspy (1993) developed the Serenity Scale as a 65-item pilot instrument based on the serenity framework proposed by Roberts and Cunningham (1990). Testing this scale on a diverse sample of 542 individuals, representing different ages, races, incomes, and educational backgrounds, led to its refinement to 40 items and confirmed its strong reliability. This revised version identified nine key factors: Inner Haven, Acceptance, Belonging, Trust, Perspective, Contentment, Present-centredness, Beneficence, and Cognitive Restructuring. However, Roberts and Aspy (1993) noted that the length of the scale might discourage participation, especially among individuals with lower levels of education. Building on Roberts and Aspy (1993) foundation, Kruse et al. (2005) conducted two studies with 270 older adults, reaffirming the 40-item scale's robust psychometric properties. Furthermore, Kreitzer et al. (2009) introduced a streamlined 22-item Serenity Scale to evaluate the effects of mindfulness-based stress reduction on symptom management following organ transplantation. Aligned with the serenity framework articulated by Kruse et al. (2005) this version retained strong validity but highlighted the need for further testing across diverse populations and time intervals to ensure stability. Conceptually, this simplification makes the 22-item version more suitable for the population of individuals in the child-to-youth transition, as they are at a developmental stage transitioning towards early adulthood and face academic pressures, identity formation, and future uncertainties (Klementyeva & Ivanova, 2023). In the context of education, serenity is more appropriately understood as a relatively stable inner orientation, characterised by the capacity to accept situations, maintain inner calm, and trust the process of life, rather than as a spiritual experience or broader existential reflection as encompassed in the longer version of the scale.

Despite notable progress, research on serenity among youth remains significantly underdeveloped, leaving an important gap in understanding its potential psychological benefits. This issue mainly stems from the lack of appropriate measurement tools to assess serenity as a distinct psychological concept. Existing serenity scales have primarily been developed and validated for adult or elderly populations, with limited attention to younger groups. Without suitable instruments, researchers and practitioners face considerable challenges in accurately identifying needs, designing targeted interventions, assessing the success of serenity-based programmes for young people, and developing community initiatives.

As the country with the fourth-largest population in the world, with youth aged 15–24 projected to reach 44 million by 2024, understanding the mental health realities of Indonesian students—including how to assess the contribution of serenity—is both critical and urgent. Recent studies show that, regardless of school enrolment level, psychological distress affects 24% of Indonesian young people. Furthermore, depression is noted in 13% of in-school young people and rises to 24% among those not in the classroom (Pham et al., 2024). Severe anxiety affects more than 95% of youths in the transitional age group of 16–24 years, with nearly half having experienced thoughts of self-harm or suicide (Kaligis et al., 2021). This condition is further intensified among individuals who lack a sense of meaning in life (Kivelä et al., 2024).

In the sociocultural context of Indonesia, the experience of serenity is often closely linked to spiritual aspects (Qomariyyah & Saifuddin, 2022), including faith in a transcendent power or divine plan (Ruslan et al., 2022). Cross-cultural studies show that such beliefs can serve as a way of accepting life events that are hard to understand through reason, while also providing a source of meaning and resilience, especially during difficult times (Gianisa & Dé, 2018; Muhajir, 2023). The idea of surrendering oneself to God has long been part of Indonesian societal identity, where spirituality and awareness of God's presence are passed down from generation to generation. This value imbues daily life with spiritual significance and underpins personal growth and psychosocial recovery (Ninin, 2019).

Furthermore, serenity plays a crucial role in promoting social cohesion within school communities by improving qualities such as empathy, social presence, and prosocial behaviour (Alan et al., 2021; Van den Bos et al., 2018; Wang et al., 2022). Students with higher levels of serenity are more likely to engage in prosocial actions, such as helping and comforting others, and tend to show lower levels of physical and verbal aggression (Cuello & Oros, 2014). This enhances social bonds through mutual trust and connectedness, which are important for enduring, mutually beneficial relationships (Wu et al., 2021; Wu & Hong, 2022). In turn, these qualities can help reduce the effect of stressful life events on adolescents' mental health, including lowering the risk of suicidal thoughts (Cohen & Stutts, 2023; Xiao & Lindsey, 2022).

The Present Study

The primary aim of this study was to validate the Indonesian version of the Brief Serenity Scale (IBSS) and to use a rigorous methodological approach to assess serenity as a measure of spirituality and well-being among students. It was

hypothesised that the Indonesian version of the IBSS would show strong psychometric properties, thereby supporting its validity, reliability, and stability over time. The secondary aim was to examine gender-related differences in response patterns, including the potential for measurement bias, and to identify the conditions that most challenge and most facilitate the development of serenity in students. The hypotheses were as follows: H₁: There is a significant difference in serenity levels between male and female students. H₂: There is a significant difference in the pattern of item difficulty related to serenity as experienced by male and female students.

Method

Measures

The Brief Serenity Scale

The original version of the Brief Serenity Scale (BSS) was first published in English by Kreitzer et al. (2009); a tool designed to measure an individual's internal state of acceptance, peace, and trust, especially when facing difficult or stressful situations. The study by Kreitzer et al. (2009) presents a more concise version that is mainly based on the framework developed by Roberts and Aspy (1993). The BSS encompasses all components from the original factors: Inner Haven, representing emotional stability and an inner space where individuals can stay genuinely present without getting caught up in external circumstances (8 items); Trust, indicating a willingness to surrender to the direction of life's meaning and adopting an attitude that not all events must be understood, controlled, or mastered rationally (4 items); and Acceptance, which involves letting go of attachment to outcomes and recognising human limitations in control, embodying the essence of *Gelassenheit* in existential philosophy (10 items). In the original version, scores on the 22-item Serenity Scale ranged from 1.86 to 5.00, demonstrating high internal consistency reliability (Cronbach's $\alpha = .95$).

The Interpersonal Need Questionnaire

The Interpersonal Needs Questionnaire, developed by Van Orden et al. (2012), is designed to assess two core constructs within the interpersonal theory of suicide: (1) thwarted belongingness, which refers to a psychologically distressing state where the fundamental need to feel connected to others is unmet, and (2) perceived burdensomeness, which denotes the perception that one's existence is a burden to others and that others "would be better off without me." In this study, the interpersonal need was used to examine the external validity of serenity. Conceptually, the interpersonal need, which comprises thwarted belongingness and perceived burdensomeness, represents a risk construct within the interpersonal theory of suicide. Psychometric analyses revealed that the Indonesian version of the Interpersonal Needs Questionnaire comprises 13 items, including 7 in the Thwarted Belongingness subscale and 6 in the Perceived Burdensomeness subscale. The scale demonstrated a person's reliability of .70 and an item's reliability of 1.00. Overall, the Indonesian version exhibited satisfactory psychometric properties, with an internal consistency coefficient of .90.

Demographics

The sociodemographic characteristics examined in the present study included age group, gender, economic status, place of residence, religion, and geographic location.

Study Design, Procedure, and Participants

The BSS was initially translated into Indonesian independently by experts to address linguistic, cultural, and practical concerns and to ensure the development of a robust, culturally appropriate psychological assessment instrument (Ramada-Rodilla et al., 2013). We retained the original structure of the Brief Serenity Scale (BSS) response format, using a 5-point Likert scale from strongly disagree (1) to strongly agree (5), with a neutral midpoint (3). The pre-final version of the Indonesian Brief Serenity Scale (IBSS) was evaluated with eleven representative participants. Qualitative analysis was conducted to assess the acceptability of the IBSS, as well as the clarity and appropriateness of its wording.

The psychometric evaluation was conducted in two phases, using a cross-sectional design. Participants in both phases answered basic demographic questions and completed the 22-item IBSS. In the first phase, Study 1, the IBSS was administered in paper-and-pencil format to a sample of 266 high school students from Central Java, East Java, and the Special Region of Yogyakarta between April and May 2024. This phase acted as a pilot study to refine and validate the instrument based on previous qualitative analyses. Of the total participants, data from 209 students ($M = 16.215$ years, $SD = 0.770$) were used for the main analysis, while responses from 57 students were excluded because their scales were incomplete. Figure 1 provides an overview of the translation and validation procedures for the Indonesian version of the Brief Serenity Scale.

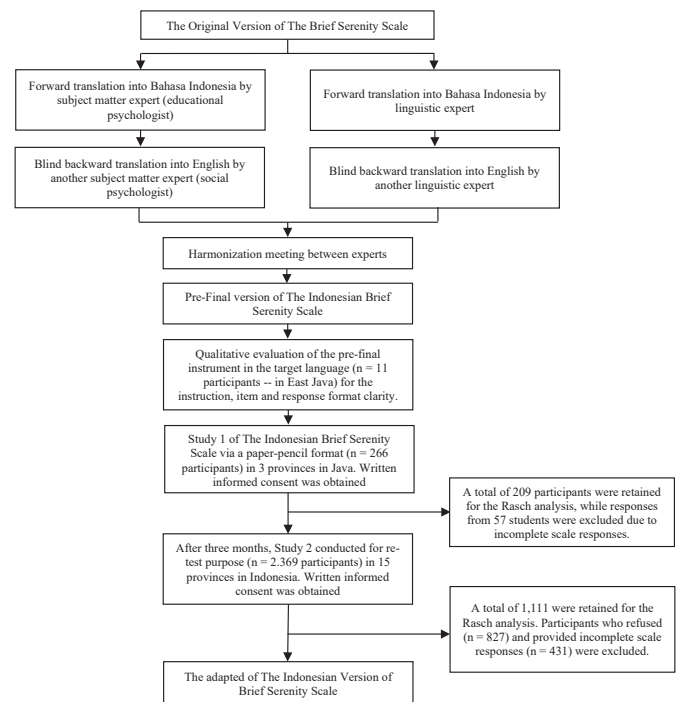
Study 2, conducted three months after Study 1, collected data from September to November 2024. This phase involved a substantially larger sample with a balanced gender distribution to enhance the study's accuracy and representativeness. During this period, online invitations via Google Forms were sent to 2,369 high school students across various provinces in Indonesia to participate. Ultimately, 1,111 students ($M = 15.511$ years; $SD = 1.800$) from 15 provinces in Indonesia were selected as the main sample for Study 2, while the remaining participants were excluded due to refusal of the invitation or incomplete scale responses. The summary of the participant distribution across Study 1 and Study 2 is in the supplementary material.

Both Study 1 and Study 2 received ethical approval from Ikatan Konselor Indonesia in Indonesia. Ethical clearance was granted under reference numbers 56785/EC/IKI/III/2024 for Study 1 and 56882/EC/IKI/VIII/2024 for Study 2. Before collecting data, all participants were informed about the aims, procedures, and potential risks of the study. Informed consent was obtained, and participants agreed to the publication of the results anonymously, in accordance with institutional and ethical guidelines.

Rasch Measurement and Statistical Analysis

Both studies employed a consistent analytical framework. Initially, descriptive statistics were generated using JASP version 0.19.1. Subsequently, the IBSS underwent Rasch analysis using the psychometric software Winsteps version 5.0.0 for

Figure 1. Translation and validation procedure of the Indonesian version of the Brief Serenity Scale



Windows. The application of the Rasch model enables invariant measurement, in which item parameters remain stable across samples, ensuring measurement comparability between groups. Table 1 outlines the analytical procedures used to test the hypothesis for the first research objective, focusing on seven key parameters that collectively enable a rigorous psychometric evaluation and support the study's aims.

To address the second objective of the study and test the first hypothesis, a Wright Map was used as a visualisation tool within the Rasch analysis to illustrate the relationship between participants' abilities and item difficulties on a common logits scale. Differences in serenity ability between male and female groups were evaluated using an independent samples t-test ($p < .05$). Furthermore, the categorisation of serenity levels among students was examined using non-uniform Differential Step Functioning for ability strata, based on person separation index values. For the second hypothesis, differences in item-level response patterns between male and female youth were assessed using the Mantel-Haenszel (M-H DIF) statistic ($p < .05$). The DIF analysis in this study prioritises gender as a determining variable because a systematic review shows that almost all educational/psychological tests record gender as a grouping variable in DIF (see Navarro-González et al., 2024; Tsaousis et al., 2020). In psychological measurements such as anxiety, coping, and mental health in general, some items show gender DIF, although the effects are sometimes small (Effatpanah et al., 2025; Hagquist, 2019) because it is relevant for upholding issues of justice, minimising measurement bias, and understanding differences at the item level of a scale. Marmara et al. (2021) in their study, they explain that there are variations in coping patterns and in the interpretation of emotional experiences between men and women, which can influence how individuals respond to the items on the instrument, even when they have the same latent attribute levels.

Table 1. Model parameters and their criteria for evaluating IBSS using the Rasch model (Aminah et al., 2024; Folastrì et al., 2023; Linacre, 2022; Rangka et al., 2023)

Model Parameters	Objective's	Evaluation Criteria's
Infit and outfit fit statistics	The model-data fit was evaluated by examining Infit and Outfit statistics, which aim to detect items and/or persons deviations from the Rasch model.	The excellent range for both infit and outfit mean square (MNSQ) statistics has been .50 to 1.50 to ensure a productive measurement.
Unidimensionality and Local dependency	Unidimensionality refers to the assumption that a single latent trait or ability underlies the responses to all items in a test or questionnaire. In contrast, local dependency arises when item responses are not independent of each other, even after accounting for the latent trait.	Principal Component Analysis (PCA) of Residuals, where a variance explained value exceeding 40% is considered to fulfil the unidimensionality criterion. Meanwhile, Yen's Q3 statistic is proposed to estimate local dependency by evaluating the standard residual correlations between item pairs in the IBSS, with a threshold that should not exceed +.70 in a positive direction.
Rating Scale Diagnostic	We use parameters known as (Andrich) thresholds to assess whether the categories, ranging from strongly disagree to strongly agree, accurately reflect progressively higher levels of the latent variable. Threshold disordering suggests that the rating scale is not operating as expected.	Thresholds between categories should progress in a monotonic sequence. If they do not follow the expected order—a phenomenon referred to as “threshold disordering”—it signals that the rating scale is not working as intended.
Measurement Precision	To help in identifying well-fitting items that contribute to reliable and valid assessments of latent traits.	The range of .32 to .80 of Pt. measure Corr. is used to determine the acceptability of items in the Rasch model.
Different Items Functioning (DIF) Analysis	Ensure the fairness and validity of test items across various groups, such as gender, ethnicity, and economic status. This violates the assumption of measurement invariance and threatens scale validity	Use the Rasch DIF model and the Rasch-Welch t Probability. Focus on items with a p-value < .05 and a DIF contrast > .43 logits, which is significant for identifying problematic items between groups.
Internal consistency of reliability and separation indices	Indicating how well they measure the same construct and indicating the ability of a test to distinguish between different levels of the trait being measured among respondents	When the value exceeds .70, it is considered acceptable for polytomous items to have internal consistency reliability. Meanwhile, higher separation indices (> 2.0 for both persons and items) indicate fair discrimination across different levels of the trait, covering a broader range of the construct.
Measurement invariance over time	Assess whether the findings or knowledge derived from the IBSS remain applicable when implemented at different points in time, particularly in the future.	Random displacements of no more than .50 logits for the items indicate that the shifts observed are minimal and are unlikely to have any meaningful impact on the scale.

Results

Study 1

Model Data Fit

The IBSS data clearly demonstrate a strong fit with the Rasch model in Study 1. The findings show high consistency in person ability estimates ($r = .90$) and excellent item reliability (.98), indicating consistent item measures across different samples. The Cronbach's alpha coefficient in Study 1 (.90) also indicates that the IBSS exhibits “very good” internal consistency. The mean Outfit MNSQ for the IBSS in Study 1 suggests a strong fit to the Rasch model, with a mean score of approximately 1.00 and very low standard errors. Additionally, the separation indices indicate that the IBSS demonstrates fair-to-good measurement precision, with a person separation index of 3.09 logits and an item separation index of 6.94 logits. These values reflect the scale's ability to distinguish between different levels of the measured trait among participants in Study 1.

Local Dependency and Unidimensionality

Despite the study's promising results, we identified issues in Study 1, flagging four items for high local dependency. Specifically, Item 19 and Item 21, as well as Item 21 and Item 22, each share 23.04% of the variance in their residuals ($r > .40$). Similarly, Item 13 and Item 14 share 21.16%, while Item 10 and Item 13 share 20.25% of the variance in their residuals ($r > .40$). Although some items exhibited signs of local dependency, they

were retained in the IBSS because the residual correlations did not exceed + .70, indicating that the shared variance among their residuals remained below 49% and was considered acceptable. Furthermore, the Principal Component Analysis (PCA) of residuals shows that the measures in Study 1 explain 40.8% of the total raw variance. Since the explained variance exceeds 40% and the unexplained variance in contrasts 1-5 of the PCA of the IBSS residuals is below 10%, these findings suggest that the assumption of unidimensionality for the IBSS is met (Fisher, 2007). Additionally, the Disattenuated Correlation for IBSS was close to 1.0, indicating that the items measure the same construct.

Fit Indices and Rating Scale Functioning

In Study 1, all items of the IBSS showed positive point-biserial correlations, ranging from 0.32 to 0.80. This indicates the absence of scoring errors across the items. A key finding concerned the fit indices of the 22 IBSS items. Item 9 exhibited an Outfit Mean Square (MNSQ) value of 1.86 logits, exceeding the acceptable threshold of 1.50 logits. This suggests that Item 9 may be inaccurate or not fully aligned with the scale's underlying concept of serenity.

To align the measurement system with the model fit in this study, a rating scale diagnosis confirmed that participants did not experience any confusion while completing the IBSS (Boone et al., 2013). Statistically, the rating scale categories in the IBSS (e.g., strongly agree to strongly disagree) showed a consistent pattern, with the Andrich Threshold

values demonstrating monotonic progression. The thresholds increased sequentially from None to -2.43 logits, then to -1.55 logits, then to 0.10 logits, and finally to 3.87 logits, indicating a positive progression on the measurement scale (Boone et al., 2013).

The Different Items Functioning (DIF): A Gender Evaluation

We conducted a DIF analysis based on gender to promote fairer outcomes across different gender groups (male vs. female). Table 2 shows that 8 items on the IBSS display Differential Item Functioning (DIF) by gender. The positive values in the 'Obs-Exp Average' column indicate that one gender group scored higher than expected. This suggests that certain items on the IBSS are "easier" for a specific gender group; in other words, that particular gender group has a psychological advantage when responding to these items.

Female students scored an average of .19 logits lower than expected on Item 13, "*I experience peace of mind*". In contrast, male students scored .09 logits higher than expected on the same item. This suggests that Item 13 favours male students and disadvantages female students. The DIF contrast shows a bias of -.69 logits, indicating a differential advantage for the male group. The overall DIF analysis reveals that male students were more advantaged in responding to Items 6, 10, 13, and 16 than female students. Conversely, female students had an advantage in responding to Items 3, 4, 21, and 22. Furthermore, DIF contrast values > .43 logits and Rasch-Welch t Prob values < .05 indicate that these items displayed slight to moderate DIF across gender groups.

Table 2. The DIF Analysis of the IBSS based on Gender of Study 1 (n = 209; i = 22)

Items (Dimensions)	Obs-Exp Average (in logits)		Outfit MNSQ	DIF Contrast	Rasch- Welch t Prob.
	Male	Female			
3 (Acceptance)*	-.10	.21	1.13	.97	.0004
4 (Acceptance)*	-.06	.13	1.13	.50	.0440
6 (Acceptance)*	.05	-.11	1.20	-.57	.0443
10 (Acceptance)*	.10	-.21	.87	-.72	.0018
13 (Inner haven) *	.09	-.19	.89	-.69	.0034
16 (Inner haven) *	.09	-.20	.99	-.70	.0026
21 (Trust)*	-.17	.15	1.23	.94	.0028
22 (Trust)*	-.06	.13	1.16	.72	.0159

Notes: The "Obs-Exp Average" columns = Observed average rating for the group - Expected average rating for the group. If "Obs-Exp Average" is positive, the group had higher-than-expected ratings. The items were subsequently excluded from Study 2 because they had a DIF Contrast > .43 logits and a Rasch-Welch t Prob < .05, indicating slight to moderate DIF across gender groups.

Since one item was found to be a misfit and eight other items showed significant gender-based Differential Item Functioning (DIF), the final version of the IBSS for Study 2 was revised to include 13 items.

Study 2

Model Data Fit

Using the same framework and parameters as in Study 1, the findings of Study 2 are summarised accordingly. In line

with Study 1, the results presented in Table 3 indicate a good overall fit to the model. The reliability coefficients for persons (.91) and items (.99) provide strong evidence that both facets demonstrate not only high internal consistency but also exceptional reliability in assessing serenity among students. Furthermore, Study 2 shows improved estimation of separation indices, suggesting that the measurement is sufficiently precise for mapping varied levels of serenity. The person separation value of 3.18 logits indicates that individual abilities are distributed throughout the measurement continuum and confirms that the IBSS is sufficiently sensitive to distinguish three statistically distinct strata of individual ability.

Table 3. Summary of model data fit to the Rasch measurement for study 1 and study 2

	Study 1 n = 209; i = 22		Study 2 n = 1,111; i = 13	
	Items	Persons	Items	Persons
Reliabilities	.98	.90	.99	.91
Separation indices	6.94	3.09	13.80	3.18
Mean measure	.00	1.72	.00	3.03
Outfit MNSQ				
Mean	.99	.99	.98	.98
S. E	.06	.03	.07	.01
S. D	.88	1.28	.96	2.21
Max.	1.03	7.17	1.59	9.32
Min.	-2.14	-1.60	-2.39	-6.73
S.E of the mean measure	.19	.09	.28	.07
Raw variance explained by measures	40.8%		51.9%	
Unexplained variance in contrasts 1-5 of PCA of residuals	9.5% to 3.2%		12.1% to 8.5%	
Cronbach's alpha	.90		.90	

Notes: The data are generated from Rasch computations, where the Measurement Unit is expressed in Logits (log-odds units).

Local Dependency, Unidimensionality, and Different Items Functioning

Regarding local item dependency, no items in Study 2 showed significant residual correlations ($r > .40$), suggesting that the 13 IBSS items operate independently and do not exhibit item redundancy. This supports the scale's appropriateness for measuring serenity among Indonesian students. Furthermore, Differential Item Functioning (DIF) analysis indicated that none of the items were biased by gender, confirming measurement invariance between male and female students. The principal component analysis of residuals revealed that 51.9% of the raw variance was explained by the measures, satisfying the criterion for unidimensionality and supporting the construct validity of the IBSS.

Fit Indices and Rating Scale Diagnostic

The IBSS showed orderly thresholds, with thresholds increasing steadily across categories, indicating the rating scale functions well in both studies. We also report that none of the 13 items in the IBSS showed misfit, with point-biserial correlations ranging from .61 to .72, providing strong evidence for the scale's reliability and the meaningfulness of the response-level scoring.

Convergent and Divergent Validity

The correlation analysis confirms the hypothesised relationships between the scales, as shown in Table 4. The findings indicate strong convergent validity, as evidenced by high, statistically significant correlations between each construct and its respective sub-dimensions. Serenity showed strong associations with acceptance ($r = .880$), inner haven ($r = 0.926$), and trust ($r = .697$), while interpersonal need exhibited high correlations with perceived burdensomeness ($r = .869$) and thwarted belongingness ($r = .759$). Moreover, divergent validity was confirmed by the very low and non-significant correlation between the serenity and interpersonal need constructs ($r = -.027$), as well as consistently low cross-construct correlations, including acceptance ($r = -.025$), inner haven ($r = -.017$), and trust ($r = -.040$) with both subdimensions of interpersonal need.

Table 4. Pearson correlation coefficients between Serenity and Interpersonal Need variables ($n = 1111$)

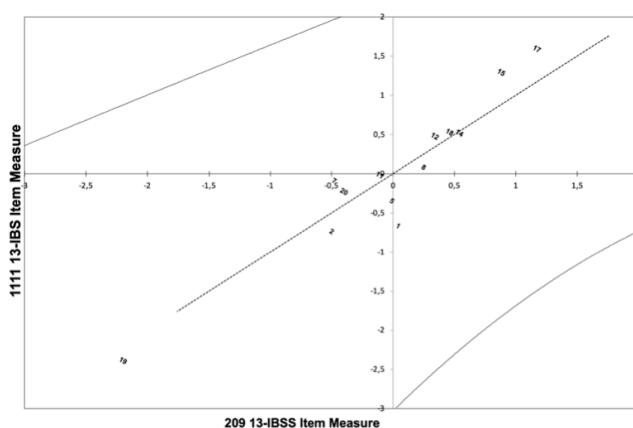
	Serenity	Interpersonal Need
Serenity	-	-.027
0	.880***	-.025
0	.926***	-.017
0	.697***	-.040
Interpersonal Need	-.027	-
0	-.020	0.869***
0	-.025	0.759***

* $p < .05$, ** $p < .01$, *** $p < .001$

Measurement Invariance Over Time Via Linking and Equating

All recommended testing parameters under Rasch analysis were conducted. However, in practice, the difficulty level of some items may vary over time; therefore, a linking and equating process was carried out for both studies (see Figure 2).

Figure 2. Linking and Equating the IBSS for Study 1 ($n = 209$) and Study 2 ($n = 1,111$) with an empirical slope value of .95.



As a result, the calibration of the 13 IBSS items in Study 2, using the anchor items from Study 1, did not show significant changes in item difficulty, with displacement values remaining within .50 logits per item. Practically, a shift value of no more than .50 logits suggests that the relative positioning of items on the difficulty scale stays consistent. In essence, these items continue to serve their measurement purpose, meaning that the

differences in observed scores are more likely due to variations in the underlying trait being assessed, rather than shifts in the items' meaning or bias.

Mapping Serenity Levels and Item Difficulty among Indonesian Students

Table 5 displays the individual ability levels, or students' levels of serenity, estimated through the Rasch calibration process in logits, with higher logit values indicating greater serenity. The overall mean serenity score for the students was 3.03 logits ($S.E. = .07$). The serenity levels among all students ranged from -2.97 logits (low) to 1.82 logits (moderate) and 5.57 logits (high), reflecting a wide distribution. Regarding serenity by gender, there was a statistically significant difference between the male and female groups ($p < .044$, *Cohen's d* = .13). The male group had a higher mean serenity score (3.21 logits) than the female group (2.93 logits). This pattern held across the entire serenity spectrum, from low to high, with the male group consistently scoring higher than the female group at each level. Table 6 presents the IBSS item difficulty estimates, model standard errors, and DIF statistics for the serenity item.

Table 5. Person Measures of Serenity ($n = 1,111$; $i = 13$)

Person	Serenity Scores of Students			
	Low	Moderate	High	All
Total Participants (%)	13	721	377	1111 (100%)
Mean Measure (in logits)	-2.97	1.82	5.57	3.03
S.E. Mean	.43	.04	.07	.07
Reliability	.89	.63	.70	.91
Male				
Total Participants (%)	6	257	162	425 (0.54%) (23.13%) (14.58%) (38.25%)
Mean Measure (in logits)	-3.18	1.86	5.58	3.21
S.E. Mean	.59	.07	.10	.11
Reliability	.87	.62	.72	.91
Female				
Total Participants (%)	7	464	215	686 (0.63%) (41.76%) (19.35%) (61.75%)
Mean Measure (in logits)	-2.78	1.80	5.56	2.93
S.E. Mean	.66	.05	.09	.08
Reliability	.90	.63	.69	.91

A higher logit value indicates that it is more challenging for students to agree with an item, or that a higher level of serenity is required for participants to endorse it. The item difficulty values ranged from -2.39 logits, indicating the least difficult item, to 1.59 logits, indicating the most difficult. The calibration results show that the most difficult item to endorse was Item 17, "I experience an inner calm even when I am under pressure," while the easiest to endorse was Item 19, "I trust that life events happen to fit a plan which is larger and more gentle than I can know."

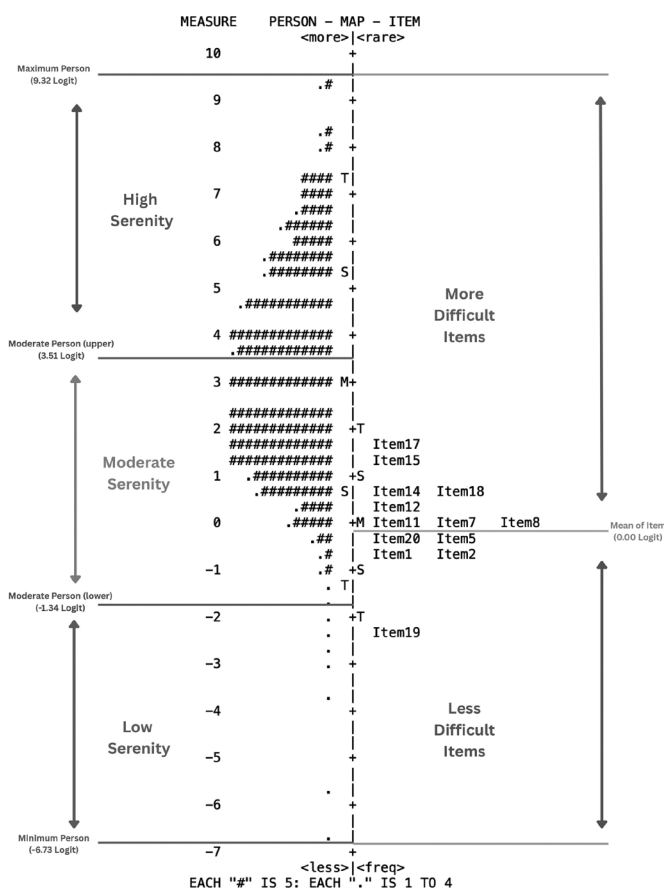
To clarify how well the IBSS items align with students' levels of serenity, a Wright Map was created using Rasch analysis. This visual illustrates the complementarity of Tables 5 and 6 and acts as a diagnostic tool for assessing item targeting and the coverage of the underlying construct (see Figure 3).

Table 6. Item Measures of Serenity (n = 1,111; i = 13)

No.	Items	Logits Measure	Model S. E	DIF Measure		
				Male	Female	M-H Prob.
17.	I experience an inner calm even when I am under pressure	1.59	.06	1.34	1.74	.0007*)
15.	I experience an inner quiet that does not depend on events	1.29	.06	1.19	1.35	.2418
18.	I can feel angry and observe my feeling of anger and separate myself from it and still feel an inner peace	.53	.07	.43	.59	.5625
14.	I am aware of inner peace	.52	.07	.35	.62	.0198*)
12.	During troubled time, I experience an inner source of strength	.48	.07	.65	.37	.0234*)
8.	I feel that I have done the best I could in life	.08	.07	.23	-.02	.0548
11.	I am aware of an inner source of comfort, strength, and security	-.02	.07	.03	-.06	.6699
7.	I attempt to deal with what is, rather than what was, or what will be	-.09	.07	.09	-.20	.0809
20.	I see the good in painful events that have happened to me	-.23	.07	-.10	-.32	.0978
5.	I try to place my problems in the proper perspective in any given situation	-.35	.07	-.38	-.35	.5614
1.	I am forgiving of myself for past mistakes	-.67	.07	-.93	-.51	.0238*)
2.	I take care of today and let yesterday and tomorrow take care of themselves	-.74	.07	-.51	-.90	.0132*)
19.	I trust that life events happen to fit a plan which is larger and more gentle than I	-2.39	.08	-2.34	-2.43	.8635

Note: The 13-item IBSS is arranged from the most difficult items to endorse at the top to the easiest at the bottom.

Figure 3. The Wright-Map of IBSS. Note: Each “#” represents 5 students, dan I represent 1 to 4 students. “S” and “T” represent one standard deviation and two standard deviation points, respectively.



It shows the distribution of students' abilities alongside the estimated difficulty of each item on a common logit scale, allowing for direct comparison between person measures and item locations.

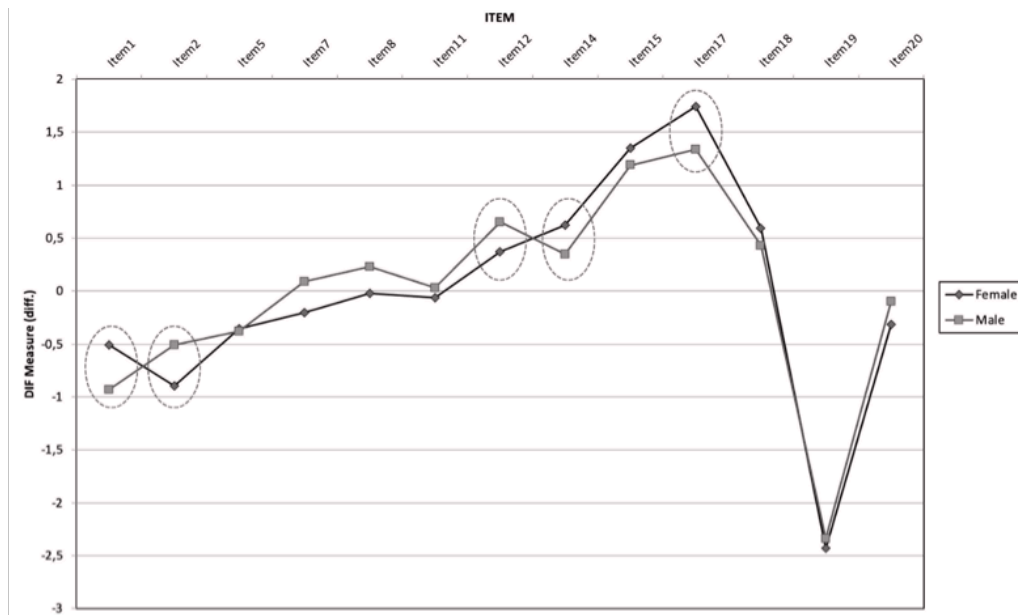
As shown in Figure 3, the distribution of ability among students closely aligns with the range of item difficulties. Most

students scored between -6.73 logits and $+9.32$ logits, while the items ranged from -2.0 logits to $+1.5$ logits. Items with higher difficulty, such as Item 17 and Item 15, were at the upper end of the scale. In contrast, those with lower difficulty, including Items 19, 1, and 2, were at the lower end. The mean person measure was higher than the mean item location (.00 logits), indicating that the items are well-suited for assessing students with moderate to high levels of serenity. Overall, the Wright Map confirms that the 13 items retained in Study 2 demonstrate good targeting and offer balanced coverage across the serenity continuum.

Gender-Based Differential Item Functioning in the Serenity Scale

Following adjustments for the total score or overall level of ability/attitude of students, DIF analyses were conducted for gender. In addition to assessing measurement bias, the presence of DIF indicates that one group shows higher agreement with a given item than another group. As shown in Table 6, of the 13 IBSS items, five exhibited statistically significant differences in responses by gender ($p < .05$). The female group reported higher agreement (1.74 logits) with Item 17, "I experience an inner calm even when I am under pressure", compared to the male group (1.34 logits). Similarly, Item 14, "I am aware of inner peace", received higher agreement from the female group (.62 logit) than the male group (.35 logits). A similar pattern was observed for Item 1, "I am forgiving of myself for past mistakes", where females showed greater agreement ($-.51$ logits) than males ($-.93$ logits). Conversely, the male group expressed higher agreement (.65 logits) with Item 12, "During troubled times, I experience an inner source of strength", compared to the female group (.37 logit), and also higher agreement ($-.51$ logits) with Item 2, "I take care of today and let yesterday and tomorrow take care of themselves", compared with the female group ($-.90$ logits). A clearer understanding of the differences in serenity response patterns between male and female participants is presented visually in Figure 4.

Figure 4. The DIF map of the IBSS ($n = 1,111$; $i = 13$). Note: Green circles indicate significant contrasts between female students (black line) and male students (red line) in their responses to serenity



Discussion

The current study examined the significance of an empirically validated, culturally relevant assessment tool for evaluating serenity as a protective factor among Indonesian students. This study notably enhances the academic literature by being the first systematic effort to translate, validate, and carefully assess the psychometric properties of the Indonesian version of the Brief Serenity Scale (IBSS) using the Rasch model. The evaluation of serenity levels among Indonesian students, categorised by gender, offers new insights into the importance of serenity as a protective factor in students' psychological dynamics. These outcomes have substantial implications for the development and expansion of evidence-based mental health promotion initiatives tailored to the sociocultural and spiritual context of Indonesian students.

The primary aim of this study was to translate and validate an instrument to assess serenity among students. Similar to the original version, the IBSS identifies acceptance, inner haven, and trust as the key factors contributing to serenity. However, psychometric inconsistencies led to the removal of 9 items, leaving only 13 suitable for Indonesian students. Item 9, *"I feel forgiving of those who have harmed me,"* is incompatible. Additionally, the other 8 items were excluded because they affected differential item functioning (DIF) across genders. DIF can create bias, as affected items unfairly favour or disadvantage specific groups (e.g., males or females), thereby failing to accurately reflect the true abilities of individuals within those groups. For example, one notable DIF value was observed in Item 3: *"In problem situations, I do what I am able to do and then accept whatever happens even if I dislike it,"* with a DIF contrast of .97 logit ($p < .05$). This item cannot be considered a valid measure of serenity, as it exhibits a significant gender disparity, for example male students showed the highest agreement with this statement (.53 logits), whereas female students scored $-.44$ logits. From an interpretative perspective, among female students, the likelihood of endorsing this item is lower, even if their

overall levels of serenity are not necessarily lower. This pattern may be due to differences in coping strategies, gender norms and socially ascribed roles, as well as divergent interpretations of acceptance in the face of challenging circumstances.

The rating-scale diagnosis confirmed that students did not show confusion about the response options on the 5-point Likert scale, which ranged from strongly disagree (1) to strongly agree (5), with a neutral midpoint (3). Additionally, the scale met the criterion for unidimensionality ($> 40\%$), indicating that the IBSS items assess serenity as a single latent construct. No items showed evidence of local dependency. The separation indices for both persons and items were within the good range, with reliability values of .99 for items and .91 for persons, reflecting highly satisfactory psychometric properties in line with Fisher (2007) guidelines. Across both studies, the IBSS also met the criterion for measurement invariance over time, ensuring the stability of item parameters across measurement periods through linking and equating procedures based on the Rasch model. This approach aims to ensure that observed score differences reflect changes in the attribute being measured, rather than changes in the instrument's measurement function.

The secondary objective of this study was to evaluate the level of serenity among Indonesian students, identify factors that facilitate or impede their capacity to respond with greater serenity, and explore gender disparities in these levels. Findings supporting the initial hypothesis indicated a statistically significant gender difference in serenity scores, with male students consistently outperforming their female counterparts. Furthermore, a Wright Map was constructed as the primary visual instrument from Rasch analysis, illustrating students' relative abilities and item difficulty on a unified measurement scale. This visualisation offers a comprehensive understanding of how items function with respect to students' latent traits. Additionally, the Wright Map demonstrated that the 13-item IBSS effectively differentiates young individuals across low, moderate, and high serenity levels in a measurement context.

Within the item measure, the analysis of item difficulty showed that Item 17, *"I experience an inner calm even when I am under pressure,"* was the most challenging for students to endorse, with a measure of 1.59 logits, the highest among all items in the IBSS. This highlights a significant difficulty for students in achieving inner calm when faced with life's pressures. Previous studies have identified several sources of such pressures, including (1) social and familial expectations, economic hardships, and the rapid change of social norms (Liu, 2023); (2) academic pressure, where high demands and expectations at school can result in burnout, conflicts with parents, and a decline in subjective well-being (Jiang et al., 2022); and (3) identity exploration and internal conflict, where students often experience inner turmoil, especially when personal values clash with social or religious expectations (O'Shaughnessy & Waddell, 2018). These three areas of pressure often lead to self-doubt and feelings of worthlessness (Dickerson, 2004).

Conversely, Item 19 *"I trust that life events happen to fit a plan which is larger and more gentle than I can know"* was the statement most agreed with by students in the IBSS (-2.39 logits). Life events that surpass human understanding often challenge the limits of logic, knowledge, and personal expectations. Nonetheless, non-material beliefs, such as faith in supernatural forces, destiny, or transcendental morality, are often invoked to interpret events that defy material explanation (Saffiotti & Pepitone, 1997). The youth in this study affirm a valuable approach, as it shows that, within a cross-cultural framework, young people have developed non-material beliefs (Deridder et al., 1999) and teleological (Banerjee & Bloom, 2014), reflecting their orientation towards purpose and meaning in life and life events (Norenzayan & Lee, 2010), which is a vital part of their developmental journey. However, it is important to recognise that high endorsement of Item 19 does not necessarily indicate active coping but rather a form of spiritual surrender. While individuals remain actively engaged in addressing their problems, they also believe that the ultimate outcome lies beyond personal control and is entrusted to a higher power. This process can help strengthen spiritual connectedness and provide renewed meaning when facing life's challenges (Wong-McDonald & Gorsuch, 2000).

The study also investigated variations in serenity scores between male and female students as the second hypothesis. Consistent with our expectations, five of the thirteen IBSS items showed statistically significant differences in item difficulty patterns between genders. Female students reported greater agreement with items related to inner calmness, peace, and self-forgiveness. Conversely, male students showed greater agreement on items related to inner strength during difficulties and to focusing on the present moment. This pattern of DIF not only confirms potential measurement bias but also reveals conceptual nuances in how serenity is experienced differently across genders. Such differences are important for guiding the development of mental health interventions and gender-sensitive promotion programmes (Erawati et al., 2025).

In unstable and unpredictable environments, young people require adaptive strategies to respond effectively to rapid changes and environmental crises, build resilience, navigate current challenges, and alleviate stress (Lestari et al., 2024).

Within this framework, serenity plays a crucial role in reducing stress and enhancing mental well-being, making it a valuable tool for young people to navigate an increasingly complex future (Soyso et al., 2021). The findings of this study provide valuable insights for the development of school-based contemplative interventions aimed at enhancing cognitive abilities, fostering creativity, strengthening emotional intelligence, and reinforcing young people's social relationships (Ratnawati et al., 2021; Shah, 2025; Zamroni et al., 2022). This is especially important, as significant life experiences, although often difficult, can serve as catalysts for self-reflection and positive change, motivating young people to take greater responsibility for their lives (Michael et al., 2018).

In Indonesia, gender role norms and social expectations regarding emotional expression tend to direct men and women towards different coping repertoires (Suhardin, 2021). As a consequence, the difference in serenity scores is more accurately interpreted as a reflection of the styles of emotion regulation and stress-coping strategies that are socialised, for example, the tendency to use different cognitive-emotional coping strategies among adolescent groups, as well as variations in emotion management and coping among the educator population. For example, a study on teenage girls in Jakarta found they more frequently employed maladaptive cognitive-emotional strategies such as rumination and catastrophising, whereas teenage boys showed a higher tendency towards positive reappraisal (Sitinjak et al., 2024). Our findings are also consistent with cross-cultural literature emphasising that relational orientation in collectivist cultures influences emotional expression, social support, and the way individuals organise the meaning of experiences, so gender-based differences should be understood as social constructs operating through norms and everyday practices (Diekmann & Schmader, 2021; Mazzuca et al., 2023).

This finding ultimately contributes to the ongoing debate in positive psychology. Rusdi et al. (2022) observed that the concept of happiness is more often emphasised than serenity, mainly because happiness is more socially recognisable and commonly regarded as the ultimate goal of life. Happiness is seen as a universal experience (everyone knows what it feels like to be happy). While this perspective makes sense, prioritising happiness as a central life aim can lead to paradoxical outcomes; the pressure to achieve happiness can, in fact, exacerbate psychological distress (Burns & Crisp, 2021). Furthermore, the overemphasis on happiness, or the belief that one must always experience positive emotions, has been linked to higher depressive symptoms and lower subjective well-being among young people (Dejonckheere et al., 2022). Including serenity as a key eudaimonic element expands the positive psychology framework beyond hedonic pursuits, offering a more inclusive view of well-being, especially across culturally diverse groups (Rusdi et al., 2022), and integrating spiritual dimensions, which often underpin experiences of serenity but are underexplored in traditional notions of happiness (Floody, 2014). Ultimately, this study's measure of serenity is not intended to supplant religiosity or formal spiritual commitments. Instead, serenity is regarded as a psychological inner orientation that can be experienced irrespective of various religious backgrounds and does not evaluate specific beliefs, practices, or religious identities.

Study Limitations

Despite the satisfactory psychometric properties of the IBSS, some limitations should be recognised. First, participants were recruited mainly from provinces on the island of Java, with only a small percentage from outside Java, which may limit the generalisability of the findings across Indonesia's diverse cultural contexts. Therefore, the findings of this study cannot be directly applied to Indonesia's entire population, given its extensive cultural diversity. This includes non-Javanese areas like Papua, Aceh, and Maluku, which have distinct value systems, spiritual expressions, and relational dynamics compared to Javanese society. Future studies should focus on validating the Serenity Scale in non-Javanese settings, considering ethnolinguistic differences, collectivist values, and the unique spiritual and emotional expressions specific to each region. Second, this study involved only Indonesian students, so its findings may not be directly applicable to student populations in other Malay-speaking countries. While these populations may have sufficient understanding of Indonesian, cross-cultural differences could affect response patterns and the underlying construct validity of serenity. Future research with more diverse samples, including participants from various Indonesian regions and Malay-speaking countries, would enhance the cross-cultural relevance and psychometric robustness of the IBSS.

Conclusion

This study has produced the Indonesian version of the Brief Serenity Scale (IBSS), provided strong psychometric evidence, and demonstrated consistent measurement over time. The IBSS extends the original scale by enabling its use across diverse sample groups in the Indonesian context. Although some items were removed from the original version due to inconsistency and gender-based differential item functioning (DIF), the serenity measure remained reliable, especially among students, the primary test group. Results revealed significant gender differences in serenity levels and distinct patterns of item endorsement, highlighting the importance of incorporating gender-sensitive strategies in mental health interventions. The 13-item IBSS demonstrates excellent psychometric properties and functions as a culturally appropriate, reliable, and valid instrument for assessing serenity, with notable potential for application in mental health promotion and future cross-cultural research.

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Conflict of Interest

The authors declare that they have no known financial conflicts of interest or personal relationships that could have influenced the work reported in this paper.

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