

Translation, Cross-Cultural Adaptation and Validation of the Peer Mental Health Stigmatization Scale among Indonesian Adolescents

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ABSTRACT

OBJECTIVE: To conduct the forward–backward translation and cultural adaptation of the Public Mental Health Stigmatization Scale (PMHSS) and to ensure its validity and reliability among junior high school students in Indonesia.

METHODOLOGY: The study followed six steps: (1) forward translation (English to Indonesian), (2) first expert discussion forum, (3) backward translation (Indonesian to English), (4) second expert discussion forum, (5) authors' discussion forum to finalize the forward and backward translations, and (6) field testing (face validity, item validity, and reliability).

RESULT: The forward translation showed that 79.17% of items were identical to the original, with 8.33% showing major and 12.50% showing minor discrepancies. In the backward translation, 83.33% of items were identical, 12.50% had major discrepancies, and 4.17% had minor discrepancies- results consistent with comparisons to the original version. Face validity was excellent (S-CVI/Ave = 0.917; S-CVI/UA = 0.917). Item validity demonstrated correlations ranging from 0.339 to 0.802, all exceeding the critical value (0.308). Reliability testing indicated excellent internal consistency (Cronbach's alpha = 0.908), confirming the strong psychometric properties of the instrument.

CONCLUSION: The PMHSS underwent a standardized process of translation and cross-cultural adaptation-including forward–backward translation, expert review, and psychometric evaluation-resulting in a conceptually and culturally equivalent Indonesian version suitable for use among adolescents.

KEYWORDS: Questionnaire, Prejudice, Stereotypes, Peer Group, Discrimination, Social Isolation.

INTRODUCTION

Adolescents are at greater risk of developing mental health conditions due to various factors, including living circumstances, stigma, discrimination, social exclusion, and limited access to quality support and services¹. Stigma refers to a negative attribute assigned to individuals who are perceived as having undesirable characteristics—such as mental health problems—within a social context^{2–4}. Currently, 5.3 million adolescents aged 12–17 years have been diagnosed with a mental or behavioral health condition. Anxiety (16.1%), depression (8.4%), and behavioral disorders (6.3%) are among the leading causes of illness and disability in this age group⁵. Consequently, adolescents with mental health conditions face a heightened risk of experiencing mental health–related stigma.

Moreover, stigma tends to be more prevalent in developing countries (31.2%) than in developed countries (20%)⁶. Among adolescents, stigmatization

most often originates from peers and can lead to numerous negative outcomes. Studies show that adolescents with a current diagnosis are three times more likely to be disengaged from school, five times more likely to miss 11 or more school days for health-related reasons, twice as likely to be victims of bullying, and ten times more likely to experience significant difficulty in forming or maintaining friendships^{3–5}.

Conducting research on peer stigma among adolescents requires a valid and reliable instrument. Developing a new questionnaire with strong psychometric properties can be challenging; therefore, using an existing validated instrument is often a more practical approach. However, many established questionnaires were developed in Western countries and may differ linguistically and culturally from Indonesian contexts, including the Peer Mental Health Stigmatization Scale (PMHSS).

The PMHSS was designed to assess peer stigma among adolescents and is available only in English⁷. This questionnaire was developed in Ireland, in English, and first published in the *Child and Adolescent Mental Health Journal* (Wiley-Blackwell Publishing Ltd., USA). To apply this instrument in Indonesia, linguistic and cultural adaptation-through forward–backward translation-is essential to ensure conceptual equivalence^{8,9}. Therefore, this study aims to: (1) conduct forward and backward translation of the PMHSS; (2) analyze and synthesize the translated

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versions; and (3) evaluate the content validity, item validity, and reliability of the Indonesian version of the instrument.

METHODOLOGY

Setting

The PMHSS consists of 24 items developed in Ireland to assess peer stigma among secondary school students aged 9–16 years⁷. Since the questionnaire has not been translated into Indonesian, forward–backward translation and cross-cultural adaptation are required to ensure validity, reliability, and cultural relevance when used in the Indonesian context.

Process

Forward translation

The Forward Translators (FTs) consisted of three nursing lecturers (FT1, FT2, and FT3) who met the following criteria: (1) held at least a master's degree in nursing, (2) demonstrated strong English proficiency, and (3) had previous experience in forward translation (English to Indonesian). Each translator worked independently to avoid mutual influence.

Forward and backward expert review

The forward and backward translations were reviewed by an expert panel consisting of two specialists with the following qualifications: (1) a minimum of a master's degree in nursing, (2) at least two years of experience as nursing lecturers or practitioners, (3) experience in conducting nursing research, and (4) experience in translation processes. The expert panel assessed equivalence of meaning, cultural appropriateness, and linguistic clarity.

Formulation the forward translation

All forward translation versions (FT1, FT2, and FT3) were consolidated into a single preliminary Indonesian version. This version was submitted to the Language Institute of Universitas Syiah Kuala for backward translation.

Backward translation

Backward translation (from Indonesian to English) was performed by translators appointed by the Language Institute of Universitas Syiah Kuala. This step ensured that the translated items remained conceptually aligned with the original PMHSS.

Content validity

The expert panel paid particular attention to potential conceptual discrepancies between the original instrument and the translated version. Cultural differences between Western and Indonesian contexts were also carefully assessed. Content validity was evaluated using the Content Validity Index (CVI) with a 4-point Likert scale: 1 = Not Relevant, 2 = Needs Major Revision, 3 = Needs Minor Revision, and 4 = Relevant. Items were considered valid if the interrater agreement was ≥ 0.80 .

Statistical validity

Validity and reliability testing of the final translated questionnaire was conducted with 41 junior high school students selected through accidental sampling. Data were collected through a self-report

questionnaire, enabling respondents to share their personal experiences and perceptions. Pearson's product–moment correlation was applied to assess item validity by comparing the correlation coefficient (r) with the critical value from the r -table. Reliability was evaluated using Cronbach's alpha.

Ethical consideration

This study was approved by the Ethics Commission of the Faculty of Nursing, Universitas Syiah Kuala. Participation was voluntary, and informed consent was obtained from all participants. For participants under 19 years of age, parental or guardian consent was also secured.

RESULTS

Qualification of translators and expert reviewers

The researchers recruited three Forward Translators (FTs) to translate the PMHSS questionnaire from the original English version into Indonesian. All translators were female and were employed as nursing lecturers. Their ages ranged from 37 to 41 years. One held a doctoral degree in Nursing Management, while the other two held master's degrees in Community Nursing and Psychiatric Nursing, respectively. They completed their most recent academic training in England, Germany, and Thailand, where English served as the primary language of instruction.

Additionally, three Backward Translators (BTs) were appointed by the English Language Institute of Universitas Syiah Kuala to translate the finalized forward-translated versions back into English. All backward translators were female staff members at the Institute, aged 28 to 31 years. Two held bachelor's degrees, and one held a master's degree in English Language Teacher Education. All obtained their academic qualifications in Indonesia, where the languages of instruction were English and Indonesian. Finally, two Expert Reviewers (ERs) were recruited to analyze and synthesize the forward and backward translations, focusing on semantic equivalence, cultural relevance, and linguistic clarity. Both reviewers were 44 years old and employed as government officials. One was male and the other female, and each held a master's degree in Psychiatric Nursing. Their most recent academic training was completed in Norway, where Norwegian and English were the primary languages of instruction.

Translation and adaptation

Analysis and synthesis of the forward translations by the Expert Reviewers (ERs) indicated that 19 items (79.17%) showed full agreement among the forward translators. Minor discrepancies were found in 3 items (12.50%)—specifically items 3, 8, and 10—although these differences did not substantially affect the meaning of the items. Additionally, 2 items (8.33%), namely items 6 and 18, displayed significant discrepancies that required further review and adjustment. Detailed discrepancies are presented in **Table I**.

Table I: Analysis of Discrepancies Among Forward Translators

Item	Original/ Translators	Items of questionnaire (forward translation version)	Discrepancies
No-significant discrepancies			
3	FT-1	Kebanyakan anak-anak akan senang bergaul dengan seseorang yang memiliki masalah emosional atau masalah perilaku	"...senang bergaul dengan..." (<i>...be happy socialize with...</i>)
	FT-2	Kebanyakan anak akan senang bergaul dengan seseorang yang memiliki masalah emosional atau perilaku	"...senang bergaul dengan..." (<i>...be happy socialize with...</i>)
	FT-3	Kebanyakan anak-anak akan merasa bahagia pergi keluar bersama seseorang yang memiliki masalah emosi dan perilaku.	"...merasa bahagia pergi keluar..." (<i>...feel happy going out with...</i>)
8	FT-1	Sebagian besar tempat kerja percaya bahwa memberikan pekerjaan paruh waktu untuk anak dengan masalah emosional atau masalah perilaku adalah ide buruk	"...tempat kerja..." (<i>...workplace...</i>)
	FT-2	Sebagian besar pengusaha percaya bahwa memberikan pekerjaan paruh waktu kepada anak dengan masalah emosi atau perilaku adalah ide yang buruk.	"...pengusaha..." (<i>...employee...</i>)
	FT-3	Kebanyakan pengusaha percaya bahwa suatu ide yang buruk untuk memberikan pekerjaan paruh waktu kepada anak dengan masalah emosi dan perilaku.	"...pengusaha..." (<i>...employee...</i>)
10	FT-1	Guru percaya bahwa anak-anak dengan masalah emosional atau masalah perilaku tidak berperilaku seperti anak-anak lain di kelas lainnya.	"...tidak berperilaku..." (<i>...do not behave...</i>)
	FT-2	Para guru percaya bahwa anak-anak dengan masalah emosional atau perilaku tidak berperilaku sebaik anak-anak lain di kelas	"...tidak berperilaku sebaik..." (<i>...do not behave as well as...</i>)
	FT-3	Para guru percaya bahwa anak-anak dengan masalah emosi dan perilaku tidak berkelakuan baik seperti sebaik anak-anak lainnya di kelas.	"...tidak berperilaku sebaik..." (<i>...do not behave as well as...</i>)
Significant discrepancies:			
6	FT-1	Kebanyakan orang percaya bahwa anak-anak dengan masalah emosional atau masalah perilaku merupakan penyebab timbulnya permasalahan pada mereka	"...merupakan penyebab timbulnya..." (<i>...are the cause of...</i>)
	FT-2	Kebanyakan orang percaya bahwa anak-anak dengan masalah emosional atau perilaku harus disalahkan atas masalah mereka	"...harus disalahkan..." (<i>...should be blamed for...</i>)
	FT-3	Kebanyakan orang percaya bahwa anak-anak dengan masalah emosi dan perilaku disalahkan atas masalah-masalah mereka	"...disalahkan..." (<i>...be blamed for...</i>)
18	FT-1	Saya percaya bahwa anak-anak dengan masalah emosional atau masalah perilaku merupakan penyebab timbulnya permasalahan pada mereka	"...merupakan penyebab timbulnya..." (<i>...are the cause of...</i>)
	FT-2	Saya percaya bahwa anak-anak dengan masalah emosional atau perilaku harus disalahkan atas masalah mereka.	"...harus disalahkan..." (<i>...should be blamed for...</i>)
	FT-3	Saya percaya bahwa anak-anak dengan masalah emosi dan perilaku disalahkan atas masalah-masalah mereka.	"...disalahkan..." (<i>...be blamed for...</i>)

Note. This table presents the comparison of item discrepancies identified across the three forward translation versions of the PMHSS.

Table I presents the analysis of discrepancies identified during the forward translation process. The findings indicate that three items of the PMHSS questionnaire (Items 3, 8, and 10) exhibited no significant discrepancies, whereas two items (Items 6 and 18) demonstrated notable discrepancies requiring further review.

For Item 3, all translators produced expressions that conveyed the same conceptual meaning—children's willingness to interact or socialize with peers who have emotional or behavioral problems. The lexical

variations, such as "*senang bergaul dengan*" ("happy to socialize with") and "*merasa bahagia pergi keluar bersama*" ("feel happy going out with"), were stylistic in nature and did not alter the intended meaning.

With regard to Item 8, minor differences were observed in the subject terms used by translators, such as "*tempat kerja*" ("workplace") and "*pengusaha*" ("employer"). Despite these lexical variations, both terms referred to the same contextual entity and maintained conceptual consistency in reflecting attitudes toward offering part-time work

Table II: Analysis of discrepancies in the backward translation among translators

Item	Original/ Translators	Items of questionnaire (backward translation version)	Discrepancies
6	Original	Most people believe that children with emotional or behavioural problems are to blame for their problems;	"...to blame for their problem..."
	BT-1	Most people believe that children with emotional or behavioral problems are the cause of the problems for them;	"...the cause of the problems for them..."
	BT-2	Most people believe that kids with emotional or behaviour problems must be blamed for their problems;	"...must be blamed for their problems..."
	BT-3	Most people believe that children with an emotional and behavioral disorder are blamed for their problems;	"...blamed for their problems..."
18	Original	I believe that children with emotional or behavioural problems are to blame for their problems.	"...to blame for their problems..."
	BT-1	I believe that children with emotional or behavioral problems are the cause of the problems for them;	"...the cause of the problems for them..."
	BT-2	I believe that kids with emotional or behaviour problems must be blamed for their problems;	"...must be blamed for their problems..."
	BT-3	I believe that children with an emotional and behavioral disorder are blamed for their problems;	"...blamed for their problems..."

Note: This table presents the comparison of item discrepancies identified across the three backward translation versions of the PMHSS.

opportunities to children with emotional or behavioral problems.

Similarly, Item 10 displayed slight phrasing differences, including "*tidak berperilaku seperti*" ("do not behave like") and "*tidak berperilaku sebaik*" ("do not behave as well as"). Although the tone varies between these expressions, their evaluative meaning remains consistent, preserving semantic equivalence across translations. Consequently, the variations in these three items were considered minor and did not compromise the conceptual integrity of the translated questionnaire.

In contrast, Items 6 and 18 presented significant discrepancies that may affect respondents' interpretation. Both items address the attribution of responsibility or blame for problems experienced by children with emotional or behavioral issues. FT-1 translates the item as "...*merupakan penyebab timbulnya...*" ("are the cause of..."), which is neutral in tone and focuses on causality. FT-2 uses "...*harus disalahkan...*" ("should be blamed for..."), introducing moral judgment and assigning explicit blame. FT-3 translates the phrase as "...*disalahkan...*" ("be blamed for..."), which is less prescriptive than FT-2 but still conveys an implication of responsibility rather than neutral causation.

These differences in wording—between neutral causation and explicit blame—are conceptually important because they may influence respondents' perceptions of the item and consequently affect their responses. Therefore, these discrepancies highlight the need for careful refinement of these items to ensure semantic equivalence and cultural appropriateness in the translated questionnaire.

Regarding the backward translations, the analysis was conducted by the same panel of expert reviewers. The

results indicated that 20 questionnaire items (83.33%) were consistent with the original version, while 2 items (8.33%) exhibited significant differences and another 2 items (8.33%) showed non-significant variations. In this section, we present only the significant discrepancies (Items 6 and 18). The details of the significant discrepancies identified during the backward translation process are provided in **Table II**.

Table II presents a comparison between the original questionnaire items and their backward-translation versions (BT-1, BT-2, and BT-3) concerning beliefs about children with emotional or behavioral problems. Two items—Item 6 and Item 18—were analyzed to evaluate the accuracy, clarity, and conceptual equivalence of the translations.

For Item 6, the BT-1 translation slightly shifts the intended focus. The phrase "*the cause of the problems for them*" redirects the emphasis from responsibility or blame to neutral causation, potentially reducing the connotation of social stigma present in the original item. In contrast, BT-2 introduces a prescriptive tone through the expression "*must be blamed*," which exaggerates the level of responsibility and misrepresents the neutral evaluative stance of the original. BT-3, however, maintains the emphasis on societal attribution of blame and preserves the conceptual equivalence of the original item. Additionally, BT-3's use of the term "*disorder*" introduces a more clinical nuance that may enhance clarity within a research context.

For Item 18, BT-1 again shifts the emphasis from blame to causation, which may alter the intended measurement of personal stigma. BT-2 employs the phrase "*must be blamed*," introducing an imperative tone that may overstate respondents' endorsement of blame compared with the more neutral phrasing of the

original item. BT-3 retains the focus on the attribution of blame and aligns closely with the original meaning. The inclusion of “*disorder*” in BT-3 is consistent with terminology commonly used in research settings, enhancing conceptual clarity and precision. Overall, BT-3 demonstrates the highest level of semantic and conceptual equivalence to the original items for both Item 6 and Item 18, making it the most suitable version for inclusion in the adapted questionnaire.

In terms of cultural adaptation, the expert panel confirmed that none of the words or statements were inconsistent with Indonesian cultural norms. All items were considered easily comprehensible, including for students at the junior high school level, indicating that the instrument demonstrates strong cultural equivalence. However, the panel recommended providing clear explanations of key terms—such as *emotional problem* and *behavioral problem*—to minimize potential bias in respondents’ interpretations.

Validation

In addition to analyzing the translated questionnaire, the expert panel was asked to assess its relevance for use with junior high school students. This step was

Table III: Characteristics of participants (N = 41)

Characteristics of participants	f (%)
Gender:	
Male	16 (39.00)
Female	25 (61.00)
Age:	
Early adolescence (10-13 years)	11 (26.80)
Middle adolescence (14-16 years)	29 (70.70)
Late adolescence (17-19 years)	1 (02.40)
Ethnic:	
Acehnese	34 (82.90)
Non-Acehnese	7 (17.10)
Religion:	
Islam	41 (100.00)
Grade level:	
Grade VII	20 (48.80)
Grade VIII	10 (24.40)
Grade IX	11 (26.80)

Note: This table presents the characteristics of junior high school students who participated in the item validity testing.

Table III: Final Version of the Forward and Backward Translation

No.	Statements	No.	Statements
1	Banyak orang percaya bahwa anak dengan gangguan emosional dan perilaku memiliki kecerdasan yang sama dengan anak lainnya;	13	Saya percaya bahwa anak dengan masalah emosional dan perilaku memiliki kecerdasan yang sama dengan anak lainnya;
2	Banyak orang memandang rendah anak yang pernah mengunjungi konselor karena memiliki emosional dan perilaku;	14	Saya memandang rendah anak yang pernah mengunjungi konselor karena memiliki emosional dan perilaku;
3	Banyak anak senang jalan-jalan dengan seseorang yang memiliki masalah emosional dan perilaku;	15	Saya senang jalan-jalan dengan seseorang yang memiliki masalah emosional dan perilaku;
4	Banyak orang percaya bahwa anak dengan gangguan emosional dan perilaku berbahaya;	16	Saya percaya bahwa anak dengan gangguan emosional dan perilaku berbahaya;
5	Banyak orang percaya bahwa anak dengan gangguan emosional dan perilaku tidak dapat dipercaya seperti anak lainnya;	17	Saya percaya bahwa anak dengan gangguan emosional dan perilaku tidak dapat dipercaya seperti anak lainnya;
6	Banyak orang percaya bahwa anak dengan masalah emosional dan perilaku harus disalahkan atas permasalahan mereka;	18	Saya percaya bahwa anak dengan masalah emosional dan perilaku harus disalahkan atas permasalahan mereka;
7	Banyak orang percaya bahwa anak dengan masalah emosional dan perilaku akan menjadi lebih baik di suatu hari nanti;	19	Saya percaya bahwa anak dengan masalah emosional dan perilaku akan menjadi lebih baik di suatu hari nanti;
8	Banyak penyedia lapangan kerja (majikan) percaya bahwa memberi pekerjaan paruh waktu kepada anak dengan masalah emosional dan perilaku merupakan sebuah ide buruk;	20	Saya percaya bahwa memberi pekerjaan paruh waktu kepada anak dengan masalah emosional dan perilaku merupakan sebuah ide buruk;
9	Banyak orang percaya bahwa anak dengan masalah emosional dan perilaku juga dapat memperoleh nilai bagus di sekolah;	21	Saya percaya bahwa anak dengan masalah emosional dan perilaku juga dapat memperoleh nilai bagus di sekolah;
10	Banyak guru percaya bahwa anak dengan masalah emosional dan perilaku tidak dapat berperilaku baik seperti anak lainnya di kelas;	22	Saya percaya bahwa anak dengan masalah emosional dan perilaku tidak dapat berperilaku baik seperti anak lainnya di kelas;
11	Banyak orang percaya bahwa anak dengan masalah emosional dan perilaku tidak sebaik anak lainnya dalam merawat diri mereka;	23	Saya percaya bahwa anak dengan masalah emosional dan perilaku tidak sebaik anak lainnya dalam merawat diri mereka;
12	Banyak orang takut terhadap anak yang pernah mengunjungi konselor (seperti: Guru BK atau psikolog) karena gangguan emosional dan perilaku yang mereka miliki;	24	Saya takut terhadap anak yang pernah mengunjungi konselor (seperti: Guru BK atau psikolog) karena gangguan emosional dan perilaku yang mereka miliki;

conducted to evaluate the content validity index (CVI) of the instrument. The analysis yielded an S-CVI/Ave of 0.917 and an S-CVI/UA of 0.917, indicating that the questionnaire demonstrates a high degree of face validity.

Following the face validity assessment, the final version of the questionnaire—integrating both forward and backward translations—was developed through a panel discussion involving the authors, taking into account all expert feedback. The final questionnaire was then administered to 41 students from SMP 12 Banda Aceh, selected using accidental sampling, to examine item validity. The characteristics of participants included in the item validity assessment are presented in Table 3.

Table I, shows that the participants involved in the questionnaire testing were predominantly female (61%), with the largest age group being middle adolescents (73.2%). In addition, most respondents were in Grade VII (48.8%).

Based on Pearson's product-moment correlation test at the 95% significance level, the correlation coefficients (r) ranged from 0.339 to 0.802, all of which exceeded the critical value (r_{table}) of 0.308. In addition, the reliability analysis produced a Cronbach's Alpha of 0.908, demonstrating that the questionnaire items exhibit excellent validity and reliability for use among junior high school students in Indonesia.

The Final version of forward and backward translation

The final version resulting from the forward and backward translation of the questionnaire is presented in **Table III**.

DISCUSSION

Health questionnaires developed in one country must undergo forward and backward translation, as well as cross-cultural validation, before being applied in countries with different linguistic and cultural contexts. This process ensures that the instruments remain conceptually equivalent and meaningful across diverse populations⁸.

In general, several guidelines have been recommended for translation and cross-cultural validation, including: (1) obtaining permission from the questionnaire developers, (2) forward translation, (3) backward translation, (4) committee review, and (5) pretesting^{10,11}. These steps were followed in translating and adapting the PMHSS questionnaire.

Permission to translate and culturally validate the PMHSS questionnaire was obtained from the developer via email. Subsequently, three forward translators independently translated the questionnaire from English to Indonesian, exceeding the minimum of two translators recommended in prior studies¹². All translators were highly qualified based on their educational background, English proficiency, and experience in questionnaire translation. All were nursing lecturers with more than five years of experience in nursing education.

The forward translations were then reviewed by two experts who held a master's degree in psychiatric nursing and possessed strong knowledge of the questionnaire content. The expert review revealed that 19 items (79.17%) were consistent across translators, 3 items (12.50%) showed minor discrepancies, and 2 items (8.33%) displayed significant discrepancies.

Comparison of the three forward translations (FT-1, FT-2, and FT-3) showed minor variations in terminology and phrasing. In Item 8, the word "workplace" was translated as "tempat kerja" (FT-1) and "pengusaha" (FT-2, FT-3), the latter more accurately reflecting the intended meaning of "employer." For Item 10, the phrase "do not behave as well as other children" was more appropriately translated as "tidak berperilaku sebaik anak-anak lain" (FT-2, FT-3).

Significant discrepancies were found in Items 6 and 18. FT-1 used "merupakan penyebab timbulnya permasalahan" ("are the cause of"), whereas FT-2 and FT-3 used "harus disalahkan" or "disalahkan" ("should be blamed" / "are blamed"), which better conveyed the original concept. Overall, FT-2 and FT-3 provided translations that were more linguistically clear and conceptually equivalent.

Backward translation analysis revealed that 20 items (83.33%) matched the original version, while 2 items (8.33%) showed minor discrepancies and 2 items (8.33%) displayed significant discrepancies. Comparison of BT-1, BT-2, and BT-3 for Items 6 and 18 revealed subtle yet meaningful differences in the expression of attribution and blame. BT-1 used "are the cause of the problems for them," reflecting causation rather than blame, potentially weakening the stigma-related nuance. BT-2 ("must be blamed for their problems") and BT-3 ("are blamed for their problems") more accurately captured the intended meaning.

Thus, Items 6 and 18 required special attention to maintain both conceptual equivalence and cultural sensitivity. The final Indonesian translation—"anak-anak dengan masalah emosional atau perilaku disalahkan atas masalah mereka"—retained the stigma-related meaning of the original items while remaining culturally and ethically appropriate for the Indonesian and Islamic context.

An authors' discussion forum was subsequently held to finalize the forward and backward translations based on expert feedback and recommendations. The finalized version then underwent a face validity assessment. Although several scholars argue that face validity lacks strong psychometric rigor¹³, it is widely used as a preliminary step in instrument validation^{14,15}. In this study, face validity was evaluated using the Content Validity Index (CVI).

The CVI for the forward and backward translations was assessed using two approaches: (1) the Average-CVI (Ave-CVI), defined as the mean proportion of items rated 3 or 4 (relevant) across all experts; and (2)

the Universal Agreement-CVI (UA-CVI), defined as the proportion of items rated 3 or 4 by all experts¹⁴. The analysis showed that the questionnaire achieved an S-CVI/Ave of 0.917 and an S-CVI/UA of 0.917. According to Polit and Beck, an S-CVI/Ave value ≥ 0.90 indicates excellent content validity. The S-CVI/UA value, which reflects universal expert agreement, further supports the strong content validity of the questionnaire¹⁶.

Following the face validity process and the finalization of the translated questionnaire, an item validity test was conducted to ensure that each item accurately measured the intended construct. Pearson's Product-Moment Correlation was used to examine the relationship between each item score and the total score. Items that demonstrated significant positive correlations were considered valid, as they aligned with the overall construct. Items with low or non-significant correlations may require revision or removal.

A total of 41 junior high school students from SMP 12 Banda Aceh participated in this study. The sample size was considered adequate for a preliminary pilot validity test, as the primary aim was to identify and refine problematic items prior to full-scale data collection. Participants were recruited using accidental sampling, which is acceptable at this early stage because the focus was on instrument validation rather than generalizability.

The Pearson correlation analysis indicated that all items demonstrated acceptable validity, with correlation coefficients (r) ranging from 0.339 to 0.802, exceeding the critical value of $r = 0.308$ at the 95% confidence level. Items with $r > 0.60$ strongly represented the construct, while those between 0.30 and 0.60 remained acceptable¹⁷. Moreover, the Cronbach's alpha value of 0.908 indicated excellent internal consistency, suggesting that all items measured the same underlying construct with minimal error.

The Spanish adaptation and validation of the PMHSS questionnaire involved 443 adolescents aged 13–17 years. Exploratory and confirmatory factor analyses revealed a two-factor structure (negative and positive scales), explaining 53% and 62% of the variance, respectively. The CFA demonstrated an excellent model fit (CFI and NNFI > 0.95 ; SRMR and RMSEA < 0.08). Factor loadings ranged from 0.49 to 0.89, and inter-factor correlations were moderate ($r = 0.45$ – 0.53). Both subscales showed strong internal consistency ($\alpha = 0.94$ for the negative scale; $\alpha = 0.81$ for the positive scale), and measurement invariance was supported across sexes¹⁸.

The results of item validity testing confirmed that each item was clear, relevant, and aligned with the intended construct, thereby strengthening the overall quality of the questionnaire. This process also ensured linguistic and conceptual suitability for Indonesian junior high school students. Given the growing focus on school-based anti-stigma interventions, expanding validated

Indonesian instruments for assessing adolescent stigma is crucial for advancing research and evaluating program effectiveness. The PMHSS-24 serves as a valuable tool in this context.

LIMITATION

This study has several limitations. First, the sample size was relatively small ($n = 41$), which limits statistical power and reduces the generalizability of the findings. Second, Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were not conducted due to the limited sample size, constraining the ability to fully assess the factorial structure and construct validity of the questionnaire. Future research should include larger samples and incorporate EFA or CFA to strengthen the evaluation of reliability and validity.

CONCLUSION

The translation and cross-cultural adaptation of the PMHSS questionnaire followed standardized procedures, including forward and backward translation, expert review, and psychometric testing. The process ensured conceptual equivalence and cultural relevance in the Indonesian context. The results demonstrated strong content validity (S-CVI = 0.917) and excellent reliability (Cronbach's $\alpha = 0.908$), confirming that the Indonesian version of the PMHSS questionnaire is a valid and reliable tool for assessing peer stigma among junior high school students.

Ethical permission: Faculty of Nursing, Universitas Syiah Kuala, Indonesia, approved this research.

Conflict of interest: The authors declare no conflict of interest in the study.

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Data Sharing Statement: The corresponding author can provide the data proving the findings of this study on request. Privacy or ethical restrictions bound us from sharing the data publicly.

AUTHOR CONTRIBUTION

Aiyub A: Conceptualization/idea, Methodology, Data Collection, data analysis, writing and drafting, review and editing, funding acquisition

Kartinazahri K: Conceptualization/idea, Methodology, Data Collection, data analysis, writing and drafting, review and editing, funding acquisition

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REFERENCES

1. World Health Organization. Mental health of adolescents [Internet]. 2025 [cited 2025 Aug 19]. Available from: <https://www.who.int/news-room/fact-sheets/detail/adolescent-mental-health>
2. Stafford MC, Scott RR. Stigma, Deviance, and Social Control. In: Ainsley, S.C., Becker, G., Coleman, L.M., editor. *The Dilemma of Difference*.

- Boston: Springer; 1986. p. 77–91.
3. Aiyub A, Jannah SR, Marthoenis M, Abdullah A, Sofyan H. Exploring Local Values and Beliefs to Develop School-based Mental Health Anti-Stigma: A Phenomenology Study. *Open Access Maced J Med Sci.* 2022; 10(B): 2327–36.
 4. Aiyub A, Jannah SR, Marthoenis M, Abdullah A, Sofyan H. Peer stigma, consequences, and anti-stigma strategies in adolescents with mental disorders: a qualitative investigation. *J Public Ment Health.* 2023; (February).
 5. Sappenfield O, Alberto C, Minnaert J, Donney J, Lebrun-Harris L, Ghandour R. Adolescent Mental and Behavioral Health, 2023. *Natl Surv Child Heal Data Briefs [Internet].* 2024 [cited 2025 Sep 30]; Available from: <https://www.ncbi.nlm.nih.gov/books/NBK608531/>
 6. Semrau M, Evans-Lacko S, Koschorke M, Ashenafi L, Thornicroft G. Stigma and discrimination related to mental illness in low- and middle-income countries. *Epidemiol Psychiatr Sci.* 2014; 24(5): 382–94.
 7. McKeague L, Hennessy E, O'Driscoll C, Heary C. Peer Mental Health Stigmatization Scale: Psychometric properties of a questionnaire for children and adolescents. *Child Adolesc Ment Health.* 2015; 20(3): 163–70.
 8. Cruchinho P, López-Franco MD, Capelas ML, Almeida S, Bennett PM, da Silva MM, et al. Translation, Cross-Cultural Adaptation, and Validation of Measurement Instruments: A Practical Guideline for Novice Researchers. *J Multidiscip Healthc.* 2024; 17(May 2024): 2701–28.
 9. Dorcas E.B., Claire, B., Francis, G., and Marcos, B.F. Guidelines for the Process of Cross-Cultural Adaptation of Self-Report Measures. *Spine (Phila Pa 1976).* 2000; 25(24): 3186–91.
 10. Guillemin, F., Bombardier, C., and Beaton D. Cross-cultural adaptation of health-related quality of life measures: Litteratur review and proposed guidelines. *J Clin Epidemiol.* 1993; 46(12): 1417–32.
 11. Fiorin BH, de Oliveira ERA, Moreira RSL, Filho BL. Adaptação transcultural do Myocardial Infarction Dimensional Assessment Scale (MIDAS) para a língua portuguesa brasileira. *Cienc e Saude Coletiva.* 2018; 23(3): 785–93.
 12. Benlidayi IC, Gupta L. Translation and Cross-Cultural Adaptation: A Critical Step in Multi-National Survey Studies. *J Korean Med Sci.* 2024; 39(49): 1–8.
 13. Royal K. "Facevalidity" is not a legitimate type of validity evidence! *Am J Surg.* 2016;212(5):1026-7.
 14. Almanasreh E, Moles R, Chen TF. Evaluation of methods used for estimating content validity. *Res Soc Adm Pharm.* 2019; 15(2): 214–21.
 15. Yusoff MSB. ABC of Content Validation and Content Validity Index Calculation. *Educ Med J.* 2019; 11(2): 49–54.
 16. Polit DF, Beck CT. The Content Validity Index : Are You Sure You Know What ' s Being Reported ? Critique and Recommendations. 2006; 489–97.
 17. Polit, D.F. and Beck CT. *Nursing research: Generating and assessing evidence for nursing practice.* Tenth. Alphen aan den Rijn: Wolters Kluwer; 2017. 565 p.
 18. Higuera-romero J De, Candelas-mu A, Fuicarpereg P, Jiménez-gonzález A, Casta C, Zuritacarrasco M, et al. Spanish adaptation and validation of the Peer Mental Health Stigmatization Scale (PMHSS-24). 2022; 15: 176–84.

