

Enhancing Teacher Mental Health Literacy: Reliability Assessment of the Student Mental Health Awareness Questionnaire in Malaysia

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Abstract

Amidst Malaysia's burgeoning child mental health crisis, effective early detection and intervention strategies within educational settings are imperative. This study introduces the Student Mental Health Awareness Questionnaire (SMHAQ), designed to evaluate secondary school teachers' awareness of student mental health issues. Developed to address the gap in mental health literacy among educators, the SMHAQ features 101 items across knowledge, attitudes, and practices domains. Administered to 391 teachers across three Malaysian states, the questionnaire exhibited high internal consistency (Cronbach's alpha of 0.849) and moderate test-retest reliability, affirming its credibility as a comprehensive measure for mental health awareness. However, the study's limitation to specific regions and a brief test-retest interval underscores the necessity for further reliability testing across a broader educational and cultural landscape. Future research should explore longitudinal applicability and effectiveness in diverse settings, paving the way for more nuanced student mental health interventions. This work represents a vital step forward in integrating mental health awareness into educational frameworks, thus improving student well-being through informed practices. This study underscores the pivotal role of teacher mental health literacy in educational settings, suggesting that improved awareness and understanding among educators can lead to more effective interventions and support for students. The findings advocate for integrating mental health training into teacher education programmes and shaping policies to better equip teachers in managing student mental health issues.

Keywords: Educational policy, educational psychology, mental health literacy tools, reliability assessment, student mental health awareness, teacher mental health literacy.

Introduction

The 2019 National Health and Morbidity Survey conducted by Malaysia's Institute for Public Health unveiled troubling statistics regarding the nation's mental health landscape. The survey found that 7.9% of children aged 5 to 15 years in Malaysia were identified to have mental health problems, with 8.8% from the rural population and 9.2% among the lowest 40% income group (B40). This survey identified an alarming increase in child mental health problems, terming it a "hidden epidemic" with 424,000 children affected. The issues range from peer-related problems to conduct disorders, emotional disturbances, and hyperactivity, indicating a pervasive crisis that necessitates immediate attention. These statistics indicate a rise in mental health issues among children compared to findings from 2015, primarily attributed to poor interaction with their peers. The survey highlights the growing concern over child mental health in Malaysia, underscoring the need for targeted interventions and support systems to address this issue effectively (National Institutes of Health Ministry of Health Malaysia, 2020).

In response to this escalating crisis, the Malaysian government has intensified efforts to promote mental health awareness, particularly among the youth. This strategic emphasis, however, has spotlighted a significant shortfall in the resources available to one of the primary stakeholders in student mental health—educators. Studies suggest that existing tools for assessing teachers' mental health literacy (MHL) lack cultural sensitivity and specificity, often failing to fully equip teachers to recognise and manage mental health issues effectively (Blitz et al., 2020; O'Farrell et al., 2022).

Given this context, there is a pressing need for a comprehensive tool specifically tailored to the Malaysian educational environment to assess and enhance the MHL of teachers, thereby improving the early detection and management of student mental health issues. This study aims to address this need through the development and

assessment of the Student Mental Health Awareness Questionnaire (SMHAQ). The introduction of the SMHAQ is a response to the pressing need for tools that can enhance teacher education and inform educational policies. By evaluating the MHL of teachers, the SMHAQ aims to provide insights that can guide the development of targeted training programmes and support structures within schools, thereby improving educational outcomes and student well-being.

Conceptual Framework

The conceptual framework integrates socio-economic and cultural determinants with educational theories such as social cognitive theory and ecological systems theory. This approach underscores the importance of equipping teachers with the necessary knowledge and skills to effectively address student mental health issues, thereby enhancing their professional development and teaching practices.

Socio-economic and cultural determinants of student mental health

Global student mental health faces complex challenges due to socio-economic and cultural factors. Recent studies have provided a deeper understanding of how these factors impact mental health outcomes, particularly highlighting the challenges faced by children in low- and middle-income countries (LMICs). These challenges include economic instability, reduced access to healthcare and limited mental health resources, contributing to disproportionately higher risks of mental health issues in these regions compared to high-income countries.

A comprehensive review by Kirkbride et al. (2024) underscores the significant role of social determinants in generating and sustaining intergenerational inequalities in mental health. The review emphasises that children growing up in socioeconomically disadvantaged conditions are 2-3 times more likely to experience mental health problems than their non-disadvantaged counterparts. They advocate for primary prevention strategies to alleviate social inequalities, which often originate in early life, as effective means to reduce the population burden of potentially life-long mental health problems.

Similarly, a systematic review by Ribeiro et al. (2023) on promoting child and adolescent mental health in LMICs highlights the protective effect of nurturing caregivers and families for child and adolescent mental health. The review synthesises research evidence regarding the effectiveness of parenting and family interventions in LMICs, including humanitarian settings, to advance practice and further understanding of the active ingredients of such interventions and implementation factors that lead to effectiveness.

Digital psychiatry and resource constraints

A study by Chakrabarti (2024) on digital psychiatry in LMICs points out the severe resource constraints in these countries, leading to a large treatment gap. The remote provision of mental health services by digital means is suggested as a way to effectively augment conventional services in LMICs to reduce the treatment gap. Despite the lag in digital psychiatry in LMICs compared to high-income countries, there have been encouraging developments in the last decade, including increasing research on the efficacy of digital psychiatric interventions.

Theoretical frameworks in educational settings

Theoretical frameworks provide valuable insights into the complexities of addressing mental health in educational settings. Social cognitive theory (Bandura, 1997) explains how teachers' beliefs in their efficacy influence their engagement and effectiveness in identifying and addressing student mental health issues. Furthermore, ecological systems theory (Bronfenbrenner, 1979) emphasises the role of teachers as agents within multiple interacting systems that affect and are affected by child development. These theories underscore the importance of equipping teachers with the knowledge and skills to act effectively within these systems.

Evaluating interventions and teacher training

Evaluating the impact of interventions aimed at improving teacher MHL has shown varied results. While certain programmes have effectively increased teacher awareness and their ability to intervene in mental health issues among students, others have not achieved their intended outcomes (O'Farrell et al., 2022). The failure of some interventions can be attributed to two main factors: (1) inadequate training and (2) the absence of sustained support for teachers' post-intervention.

Inadequate training refers to programmes that do not provide comprehensive or sufficiently detailed information, leaving teachers ill-equipped to recognise and address mental health issues in their students. This inadequacy can stem from a lack of clarity in the mental health curriculum provided to trainee teachers. A qualitative study of 52 participants in the UK found that teachers felt unprepared by their education programmes

to manage child and adolescent mental health issues effectively. The trainee-teachers described the mental health curriculum as “unclear,” leading to recommendations for a review of training curricula (Gunawardena et al., 2024).

The absence of sustained support post-intervention points to the lack of ongoing resources, mentorship, or continuing education opportunities for teachers after they have completed an initial training programme. This lack of support can lead to a situation where, despite initial gains in knowledge and confidence, teachers may feel isolated in their efforts to address mental health issues among students over time (March et al., 2022). A systematic review by March et al. (2022) emphasised the importance of leadership support and the perceived benefit of interventions by school staff as key facilitators for the sustainability of school-based mental health and emotional well-being programmes. However, significant barriers such as staff turnover, capacity issues, and competing priorities at the school level were identified as major challenges to sustained delivery. The review suggests that models involving continued external support for schools could be a crucial pathway for ensuring the ongoing delivery of mental health interventions.

The mixed results from these interventions underscore the necessity for well-designed, culturally sensitive training programmes that are regularly updated to reflect new research and best practices. These findings underscore the importance of not only providing initial training that is comprehensive and clear but also ensuring that there is a mechanism for ongoing support and professional development for teachers in the area of MHL. Without addressing these critical areas, interventions aimed at improving teacher MHL may fail to have a lasting impact.

Development and validation of mental health literacy tools

Advancements in the development and validation of MHL tools have been significant in recent years. However, many tools still lack the cultural specificity needed to accurately measure and improve the MHL of teachers in diverse educational environments (Blitz et al., 2020). This gap highlights the ongoing need for tools like the CMHAQ, designed with cultural and contextual nuances in mind.

The Mental Health-Promoting Knowledge Scale is an example of a tool adapted and validated for teachers to assess positive MHL, focusing on the knowledge necessary for promoting mental health rather than just recognising mental disorders. This scale was validated in a study involving Filipino preservice teachers, demonstrating its utility in assessing teachers’ knowledge of positive mental health and its association with well-being, teaching engagement, and teaching satisfaction (Nalipay et al., 2024). This instrument stands out for its emphasis on positive aspects of mental health, which is relatively underexplored in MHL research.

Global and local contexts: Assessing student mental health awareness

A review of existing student mental health awareness questionnaires among secondary school teachers, both within Malaysia and globally, reveals a variety of tools and studies aimed at assessing teachers’ knowledge, attitudes, and awareness regarding student mental health issues. These tools are crucial for identifying gaps in MHL among educators and formulating interventions to enhance their ability to support students effectively.

Globally, several studies and questionnaires are designed to assess teachers’ awareness and attitudes toward student mental health. In the United States, Mastrorio et al., (2020) examine the psychometric properties of the Teacher School Mental Health Literacy Survey (TSMHLS), a measure designed to assess teachers’ knowledge related to student’s mental health within the classroom context. The TSMHLS could serve as a direct tool for identifying the level of student mental health awareness among secondary school teachers, providing insights into areas where further training and support are needed.

In Taif, Saudi Arabia, a study utilised an anonymous, self-administered online questionnaire to evaluate primary school teachers’ awareness and attitudes toward childhood mental disorders (Anas Ibn Auf et al., 2023). This questionnaire, derived from a previous study, included socio-demographic factors, awareness about pupil mental issues, attitudes toward mental health issues, and suggested ways to raise awareness of childhood mental issues. The study highlighted a general lack of awareness among primary school teachers regarding childhood mental health and underlined the need for improved training and resources.

In Cambodia, a randomised controlled trial assessed the effectiveness of teachers’ MHL training, indicating a growing interest in evaluating and enhancing educators’ capabilities in addressing student mental health concerns (Bunna, 2019). This suggests a recognition of the critical role teachers play in early detection and intervention for student mental health issues.

In the Philippines, Nalipay et al. (2024) adapted and validated the Mental Health-Promoting Knowledge Scale (MHPKS) for teachers, focusing on positive MHL. The study’s approach to assessing teachers’ knowledge of positive mental health and its association with well-being, teaching engagement, and satisfaction could inform the development of questionnaires aimed at evaluating secondary school teachers’ awareness and understanding of student mental health.

In Malaysia, while specific questionnaires targeting secondary school teachers' awareness of student mental health are not explicitly mentioned in the provided sources, there is a broader interest in MHL among educators and the general population. For instance, a study aimed at investigating factors affecting Malaysian student mental health awareness emphasised the mediating roles of knowledge on mental health and attitudes towards mental health (Lee et al., 2023). Although this study focused on secondary school students, it underscores the importance of MHL in educational settings and suggests that similar approaches could be applied to assess teachers' awareness and knowledge.

Moreover, the Malaysian National Strategic Plan for Mental Health 2020–2025 outlines strategies for strengthening mental health resources, including equipping teachers with appropriate knowledge, attitudes, and skills for mental well-being (Lee et al., 2023). This indicates a policy-level recognition of the need to enhance MHL among educators, which could be supported by the development and implementation of targeted questionnaires and training programmes.

While specific questionnaires targeting secondary school teachers' awareness of student mental health in Malaysia were not directly identified, the global and local efforts to assess and improve educators' MHL highlight the importance of such tools. These efforts are crucial for enabling teachers to support the mental well-being of their students effectively, suggesting a need for continued development and validation of culturally sensitive and context-specific questionnaires within Malaysia and beyond.

These sources offer a rich landscape of research and practical tools aimed at enhancing mental health awareness and literacy among educators, parents and caregivers. They collectively underscore the critical role of informed, supportive adults in identifying and addressing mental health issues in students. These resources cover a wide range of mental health topics, including the assessment of mental health in schools (O'Farrell et al., 2022), MHL for supporting children (Johnson et al., 2023) and the integration of mental health education into curricula (Wiedermann et al., 2023). This broad coverage is crucial for addressing the multifaceted nature of mental health issues.

Some tools and studies emphasise the importance of cultural sensitivity and contextual relevance in mental health assessment and education (Johnson et al., 2023; O'Farrell et al., 2022). This is particularly important in diverse educational settings and can enhance the effectiveness of mental health interventions. Several studies provide empirical evidence supporting the effectiveness of MHL programmes in improving knowledge and attitudes towards mental health (Johnson et al., 2023; Shim et al., 2022). This empirical basis is essential for the credibility and adoption of these tools in educational settings.

Resources like the MHPKS offer practical tools that educators can use to initiate discussions about mental health with their students. These tools can facilitate early identification of mental health issues and promote a supportive classroom environment. While there is a significant focus on primary education and early childhood (Siti Aiman Sulaiman & Suziyani Mohamed, 2023), there appears to be a gap in resources specifically designed for secondary education settings (Johnson et al., 2023; O'Farrell et al., 2022). Adolescence is a critical period for mental health development and more targeted tools for this age group are needed.

The studies reveal a heterogeneity in the measurement of MHL and related outcomes (Johnson et al., 2023). This variability can make it challenging to compare results across studies and to generalise findings. Standardised measures and definitions could enhance the comparability and applicability of research findings. While some studies address MHL among parents and caregivers (Johnson et al., 2023; O'Farrell et al., 2022), there is room for more comprehensive and accessible resources targeting this group. Parents and caregivers play a crucial role in supporting student's mental health and empowering them with knowledge and skills is essential. Although some resources aim to reduce stigma (Shim et al., 2022), the specific strategies and outcomes related to stigma reduction are not extensively detailed. More research is needed to identify effective approaches for reducing mental health stigma in educational settings.

Implications and gaps in research

The literature substantiates the profound impact that teacher MHL can have on educational outcomes. Teachers who are well-informed and confident in their ability to address mental health issues are better equipped to foster supportive classroom environments and implement effective interventions (Gunawardena et al., 2024). However, while there is a significant focus on primary education and early childhood (Siti Aiman Sulaiman & Suziyani Mohamed, 2023), there appears to be a gap in resources specifically designed for secondary education settings (Johnson et al., 2023; O'Farrell et al., 2022). Adolescence is a critical period for mental health development, and more targeted tools for this age group are needed. This connection between teacher literacy and student mental health outcomes further justifies the development of targeted, comprehensive training and assessment tools.

By incorporating global perspectives, theoretical underpinnings, analysis of past interventions and the latest advancements in assessment tools, this conceptual framework frames the critical need for the CMHAQ. It establishes a solid foundation for examining the tool's effectiveness in the Malaysian context, aiming to contribute substantially to the field of child mental health by enhancing the preparedness of educators to manage and support

their students' mental health needs effectively. This comprehensive approach not only advances the scholarly discourse but also sets the stage for practical improvements in mental health strategies within schools.

Research objectives

Recognising the critical role teachers play in early detection and intervention, it is crucial to develop the SMHAQ, specifically tailored to the Malaysian educational context, to measure teachers' knowledge, attitudes, and practices towards student mental health. Therefore, this study aims to establish the reliability of the SMHAQ through comprehensive statistical analyses, including internal consistency, item analysis, and test-retest reliability, ensuring that the tool consistently measures what it is intended to measure.

By achieving these objectives, this study would contribute significantly to the ongoing efforts to manage the student mental health crisis effectively, particularly through the empowerment of teachers who play a critical role in early detection and intervention.

Methodology

The primary instrument for this assessment was the SMHAQ, developed to evaluate teachers' knowledge, attitudes and practices regarding student mental health. The goal of the SMHAQ is to provide insights for school administrators, social workers, mental health professionals, policy makers, and relevant ministries on strategies to better identify, understand, and address student mental health concerns. The target population comprised secondary school teachers in Malaysia. The focus on secondary school teachers is due to the critical role they play in the early identification and intervention of mental health issues among adolescents, a period when approximately 50% of mental health problems begin to manifest.

Research design

This study utilised a cross-sectional survey design to assess student mental health awareness among secondary school teachers in Malaysia. A cross-sectional design was chosen because it allows for the collection of data from a large number of participants at a single point in time, providing a snapshot of the current state of student mental health awareness among teachers. This design is particularly useful for identifying correlations and associations between variables without manipulating them, making it suitable for observational research in educational settings (Setia, 2016).

The cross-sectional survey design not only captures the current state of mental health awareness among teachers but also provides a basis for developing ongoing professional development programmes and policies aimed at enhancing teacher MHL.

Respondents of the study

Perlis, Kedah, and Penang were the states involved in this study due to official approval from the Ministry of Education. Judgmental sampling is a non-probability sampling technique where the selection of subjects is based on the judgment or discretion of an authority or expert (Adeoye, 2023). In this case, the Ministry of Education serves as the authoritative body whose approval dictates the choice of states.

Multistage sampling was employed to determine the respondents within the selected states. This approach involved two main stages: (1) cluster sampling and (2) simple random sampling. The selected states were divided into clusters corresponding to their respective districts as assigned by the Ministry of Education. This initial stage ensured that the sample was geographically representative and included a variety of educational setting (Brown, 2010).

Within each district, teachers were randomly sampled to participate in the study. This stage involved selecting individual teachers from the clusters using a simple random sampling method, ensuring that every teacher had an equal chance of being included in the sample (Brown, 2010). The inclusion criteria comprised secondary school teachers from government-appointed schools in Perlis, Kedah, and Penang who provided informed consent to participate in the study. The exclusion criteria included teachers from private or international schools and those who were on any form of leave.

A total of 391 participants were recruited for the survey. The sample size was determined using Raosoft, Inc.'s online sample size calculator, which ensures that the sample is statistically significant and representative of the population. The calculator takes into account the desired confidence level, margin of error, and the estimated population size.

Instrument development

The SMHAQ was initially composed of 101 items across three domains: (1) Knowledge of Student Mental Health (30 items), (2) Attitudes Towards Student Mental Health (19 items), and (3) Practices Towards Student Mental Health (52 items). Items were synthesised and adapted from existing literature and previous research to ensure contextual relevance and comprehensive coverage.

Since this study focuses on establishing the reliability of the SMHAQ, ensuring that it consistently measures student mental health awareness among secondary school teachers in Malaysia, validation procedures, including content and construct validity, were conducted separately and will only be briefly mentioned.

Domain construction

The focus of knowledge, attitudes, and practices as the domains in the SMHAQ was grounded in a comprehensive understanding of the multifaceted nature of MHL and its significant impact on mental health outcomes. This approach is informed by the existing literature and research findings that collectively underscore the importance of these domains in promoting early identification of mental disorders, reducing stigma, and enhancing help-seeking behaviours.

Knowledge of mental health, including an understanding of how to obtain and maintain good mental health, recognition of mental disorders and awareness of their treatments, is foundational to MHL. This domain encompasses the ability to identify symptoms of mental illnesses and differentiate them from normal psychological states, which is crucial for early detection and intervention. The literature consistently highlights the role of knowledge in improving mental health outcomes and the use of health services. For instance, improved knowledge about mental health and disorders can promote early identification of mental disorders, which is essential for timely intervention (Wei et al., 2015). Furthermore, understanding mental health not only in terms of illness but also in terms of maintaining positive mental health is vital for comprehensive MHL (Atanasova & Kamin, 2022; Erfan Soleimani-Sefat et al., 2022).

Attitudes towards mental health, including decreasing stigma against mental illness and fostering positive attitudes towards people experiencing mental health issues, are critical for creating a supportive environment that encourages help-seeking. Stigma is a significant barrier to seeking help for mental health issues; thus, addressing attitudes is essential for improving mental health literacy. Research shows that better awareness of how to seek help and treatment, coupled with reduced stigma at individual, community and institutional levels, may improve mental health outcomes (Wei et al., 2015). Attitudes also influence the willingness of individuals to support others in seeking help, making this domain integral to comprehensive MHL efforts.

Practices towards mental health, including help-seeking efficacy and the adoption of behaviours that promote mental health and well-being, translate knowledge and attitudes into action. This domain focuses on the practical application of mental health knowledge and positive attitudes, encompassing behaviours such as seeking professional help, providing support to others, and engaging in self-care strategies that contribute to mental well-being. The literature suggests that enhancing help-seeking efficacy is a critical component of MHL, as it involves knowing when and where to seek help and developing competencies designed to improve one's mental health care and self-management capabilities (Atanasova & Kamin, 2022; Erfan Soleimani-Sefat et al., 2022).

The decision to focus on the domains of knowledge, attitudes, and practices in the SMHAQ is based on a comprehensive understanding of how these components interact to influence mental health outcomes. By addressing these domains, interventions aimed at improving MHL can more effectively promote early identification of mental disorders, reduce stigma, and enhance help-seeking behaviours.

Questionnaire translation

The translation of the SMHAQ into Malay and English versions necessitates a meticulous and systematic approach to ensure that the translated versions accurately reflect the original content while being culturally and linguistically appropriate for the target populations. This process is crucial for maintaining the reliability of the questionnaire across different languages and cultural contexts.

The initial step involves translating the original English version of the SMHAQ into Malay. This task was undertaken by two bilingual translators, who are native Malay speakers with strong proficiency in English, from the School of Language, Literation and Translation at Universiti Sains Malaysia. One translator was well-versed in the concepts measured by the SMHAQ to ensure that the translation retained the intended meaning of the original items. The second translator was a "naïve" translator, unfamiliar with the questionnaire's objectives, to help identify potential biases or assumptions in the translation (Tsang et al., 2017).

Following the forward translation, the two versions were compared, and discrepancies were discussed among the translators, researcher, and subject matter experts to synthesise the translations into a single consolidated Malay version of the SMHAQ.

Next, the synthesised Malay version underwent back-translation into English by a different set of bilingual translators who were not involved in the forward translation process. These back-translators, also from the School of Language, Literation and Translation at Universiti Sains Malaysia, identified any discrepancies or loss of meaning during the translation process. The back-translated version was then compared with the original English version to ensure conceptual and semantic equivalence.

An expert committee, comprising the forward and backward translators and subject matter experts, reviewed all the translated versions. They assessed semantic, idiomatic, experiential and conceptual equivalence between the original and translated versions. The committee resolved any discrepancies and reached a consensus on the prefinal version of the translated SMHAQ.

The prefinal Malay version of the SMHAQ was piloted to assess the questionnaire's comprehensibility, cultural relevance and overall acceptability. Respondents were asked to provide feedback on their understanding of each item, ensuring that the translated items retained the same meaning as the original items. Based on this feedback, further revisions were made to the translated version. After incorporating feedback from the pilot testing, the expert committee finalised the Malay version of the SMHAQ.

By following this comprehensive approach, the study ensured that the SMHAQ is a reliable instrument for assessing student mental health awareness among secondary school teachers in Malaysia. This comprehensive approach ensures that the instrument is not only linguistically accurate but also culturally sensitive and relevant to the target populations.

Assessment measures

The statistical analysis for this study focused on assessing the reliability of the SMHAQ. These included internal consistency, classical test theory item analysis, and test-retest reliability.

Internal consistency of the SMHAQ was assessed using Cronbach's Alpha, which measures the extent to which items within each domain are correlated, thus indicating the reliability of the scale. A Cronbach's Alpha value of .70 or higher was considered acceptable for this study (Tang et al., 2014). Classical Test Theory was used for item analysis, focusing on internal consistency, reliability, item-total correlation, and descriptive statistics to ensure that the SMHAQ consistently measuring the intended constructs of knowledge, attitudes, and practices towards child mental health. Lastly, Spearman's rank-order correlation was used to assess the test-retest reliability of the SMHAQ. This nonparametric measure evaluates the strength and direction of the association between two ranked variables, in this case, the scores from the initial test and the retest. A Spearman's rho value above .6 is typically considered acceptable for this study (Cohen et al., 2003; Field, 2017; Tsang et al., 2017).

Findings and discussions

This section presents the reliability analysis of the SMHAQ, which was conducted to assess its consistency in measuring teachers' knowledge, attitudes, and practices towards student mental health. The analysis employed Cronbach's Alpha and item analysis, and for test-retest reliability, Spearman's rank-order correlation was utilised.

The reliability of the SMHAQ as evidenced by high internal consistency and moderate test-retest reliability, as discussed below, suggests that this tool can be effectively used in teacher education programmes to assess and improve MHL. Additionally, the insights gained can inform policy makers in developing strategies that support teachers in managing student mental health issues.

Cronbach's alpha

The SMHAQ showed good reliability with an overall Cronbach's alpha of .85, indicating a high degree of internal consistency among the 101 items. This suggests that the SMHAQ is a robust tool for evaluating mental health awareness in secondary school teachers.

When examining the subscales individually, the Knowledge of Student Mental Health section, which includes 30 items, had a Cronbach's alpha of .69, pointing to moderate internal consistency. The Attitudes Towards Student Mental Health section, with 19 items, demonstrated stronger internal consistency, reflected by a Cronbach's alpha of .77. The Practices Towards Student Mental Health section, the most extensive with 52 items, showed exceptionally high reliability with a Cronbach's alpha of .86. Table 1 below summarises these findings, providing a detailed breakdown of the number of items in each subscale and their respective Cronbach's alpha values, both raw and standardised. This breakdown highlights the relative strengths of each subscale and indicates areas where the instrument performs particularly well.

Table 1

Cronbach's Alpha for the Student Mental Health Questionnaire and Subscales

Subscale	Number of Items	Cronbach's Alpha	Cronbach's Alpha (Standardised)
Overall Composite	1	.85	-
Knowledge of Student Mental Health	30	.69	.65
Attitudes Towards Student Mental Health	19	.77	.76
Practices Towards Student Mental Health	52	.86	.87

Item analysis

The item analysis revealed diverse mean scores and standard deviations across items, indicating varied perceptions among respondents. Corrected item-total correlations were generally positive, but some items displayed negative correlations, such as “Mental disorders symptoms persist throughout life,” suggesting misalignment with the overall construct. The values of Cronbach's Alpha if Item Deleted were close to the overall alpha for most items, indicating that no single item drastically affects the internal consistency of the subscales. However, the removal of certain items could potentially increase the alpha, indicating areas for refinement.

Table 2 below provides a detailed analysis of selected key items from the subscales of the SMHAQ. This table highlights the mean (*M*) and standard deviation (*SD*) for each item, the corrected item-total correlation, and the Cronbach's Alpha if the item is deleted. These values help to identify items that may be misaligned with the overall construct and suggest areas where the subscales could be refined to improve internal consistency. For example, the item “Mental disorders symptoms persist throughout life” has a negative corrected item-total correlation, indicating a potential need for revision or removal. Similarly, other items with low or negative correlations suggest areas for further investigation.

Table 2

Selected Key Items Analysis from the Subscales of the Student Mental Health Questionnaire

Subscale	Item	<i>M</i>	<i>SD</i>	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Knowledge of Student Mental Health	Child mental health problems require longer cure time	2.88	0.42	.05	.69
	Children with mental health problems likely to engage in delinquent behaviour	2.62	0.72	.07	.69
	Mental disorders symptoms persist throughout life	2.36	0.78	-.09	.70
	Mental health problems can lead to suicide	2.71	0.59	.15	.68
	Awareness of child mental health policies	2.07	0.80	-.02	.70
	Personal experience with mental illness	1.21	0.61	.10	.69
	Source of information: Media	2.07	1.00	.52	.65
	Biological factors as cause of mental health issues	2.44	0.90	.23	.68
	Difficult to differentiate normal and mentally ill children	2.21	0.89	-.09	.71
	Mental health problems do not influence academic achievements	1.61	0.81	.14	.69
Attitudes Towards Student Mental Health	Embarrassment with mental health problems student	3.51	0.93	.22	.77
	Child mental health as a serious problem	1.69	0.88	.00	.78
	Exclusion of mentally ill children from school	3.17	1.12	.31	.76
	Separate treatment centres	3.13	1.15	.18	.77
	Ignoring mental health problems	3.20	1.12	.36	.76
	Encouraging treatment	2.02	0.91	.11	.77
	Acting mentally ill	3.54	1.11	.48	.75
	Joking about mental health	4.10	1.11	.63	.73
	Walking away from problems	3.91	1.08	.61	.74
	Using physical discipline	4.21	1.07	.62	.73

continued

Practices	Can interact socially	2.39	0.81	.37	.86
Towards	Are shy or fearful	2.65	0.88	.35	.86
Student	Should hide their mental health problems	2.99	1.24	.17	.87
Mental	Encouraging treatment	1.56	0.65	.48	.86
Health	Admission to hospital	2.61	0.96	.36	.86
	Using physical discipline	3.82	1.23	.23	.86
	Teachers could be a useful person to support children	1.93	0.81	.51	.86
	Mental health services in schools/community	1.84	0.83	.39	.86
	Experience with psychiatric medication	2.68	0.60	.04	.87
	Support for teachers in managing child mental health	1.41	0.74	-.31	.87

Test-retest reliability

The test-retest reliability of the SMHAQ was assessed using Spearman’s rank-order correlation. The correlation between the composite scores at the initial assessment and the retest, with a two-week interval, was statistically significant $r_s(391) = .26, p < .01$, indicating moderate test-retest reliability for the entire questionnaire. However, individual subscales showed lower test-retest reliability, with the Knowledge subscale $r_s(391) = .09, p = .088$, the Attitude subscale $r_s(391) = .01, p = .810$, and the Practices subscale $r_s(391) = .07, p = .164$. This suggests that while the composite score of the SMHAQ is a moderately reliable measure over time, the individual subscales may require further investigation or refinement to improve their stability and reliability.

Table 3 below presents the detailed test-retest reliability coefficients, r_s -values and their corresponding p -values for the SMHAQ composite score and its individual subscales. This table highlights the variability in reliability across different sections of the questionnaire, emphasising the need for targeted improvements in specific subscales.

Table 3

Summary of Spearman’s Rho and Significance for the Student Mental Health Questionnaire and Subscales

Subscales	r_s -value (Test 1 vs Test2)	p -value (2-tailed)
Overall Composite	.26	< .001
Knowledge of Student Mental Health	.09	.088
Attitude Towards Student Mental Health	.01	.810
Practices Towards Student Mental Health	.07	.164

In summary, the SMHAQ demonstrates moderate to high reliability for assessing mental health awareness among teachers, with good internal consistency as indicated by Cronbach’s alpha. However, the variability in test-retest reliability across subscales highlights the need for ongoing refinement and validation of the instrument.

This study sought to evaluate the reliability of the SMHAQ among secondary school teachers in Malaysia, aiming to fill a critical gap in the assessment of teachers’ awareness regarding child mental health issues. The SMHAQ’s overall Cronbach’s alpha of .85 signifies a high level of internal consistency across its 101 items, underscoring its reliability as a tool for gauging mental health awareness among educators.

The findings contribute to the existing knowledge on child mental health by providing a validated instrument specifically designed to assess teachers’ knowledge, attitudes, and practices concerning child mental health. The pivotal role of educators in identifying and supporting students with mental health challenges is well-documented (Nygaard et al., 2023), and the SMHAQ represents a significant advancement in this area. Its robust reliability, as evidenced by a high Cronbach’s alpha, supports the early implementation of interventions and support mechanisms within educational settings, which is vital for addressing mental health issues at an early stage (Bailey et al., 2020).

The analysis of the SMHAQ’s subscales revealed nuanced insights. The Knowledge of Student Mental Health section, while demonstrating acceptable reliability (Cronbach’s alpha of .69), highlighted certain items, such as “Mental disorders symptoms persist throughout life” and “Source of information: Media”, that may not fully align with the overarching construct, suggesting the need for item revision to enhance construct validity. Similarly, the Attitudes Towards Student Mental Health section showed strong internal consistency (Cronbach’s alpha of .77), yet item analysis indicated variability in respondents’ attitudes, such as “Acting mentally ill” or “Joking about mental health,” pointing towards areas for potential improvement in the questionnaire’s sensitivity to diverse perspectives.

The Practices Towards Student Mental Health section exhibited exceptional reliability (Cronbach's alpha of .86). However, the presence of items with negative correlations, such as "Support for teachers in managing child mental health," to the overall construct suggests a misalignment that warrants further examination to ensure each item contributes meaningfully to the assessment of teachers' practices.

Test-retest reliability and stability over time

The moderate stability of the SMHAQ, as indicated by Spearman's rank-order correlation, underscores its potential utility in monitoring changes in teachers' mental health literacy over time. This stability is crucial for a tool designed to measure dynamic shifts in awareness and understanding among educators. However, the observed variability in the reliability scores across individual subscales necessitates ongoing evaluation and targeted refinement to enhance the tool's precision and applicability in varied educational environments. By addressing these variabilities, the aim is to ensure that the SMHAQ remains a reliable and relevant resource for assessing and improving mental health literacy in diverse educational settings and over successive time intervals.

The use of Spearman's rank-order correlation to assess the stability of MHL tools is documented in the context of aggregated mental health continuum scores, which can be analogous to evaluating tools like the SMHAQ (Chen et al., 2020). Additionally, the necessity for continuous refinement of MHL measures to maintain their relevance and accuracy in educational settings is supported by literature that highlights the dynamic nature of mental health challenges and the evolving understanding of these issues in educational contexts (Jorm, 2019).

Furthermore, the importance of reliability in MHL tools, particularly in educational settings where they are used to inform interventions and support strategies, is emphasised in studies that examine the reliability and validity of similar scales (Tian et al., 2024). These studies collectively underscore the critical need for ongoing assessment and refinement of tools like the SMHAQ to ensure they remain effective in diverse and changing educational environments.

Comparison of the SMHAQ with other assessment tools

The SMHAQ is constructed to assess MHL among educators, focusing on the educational context. This specificity distinguishes it from other mental health assessment tools, such as the Mental Health Self-Management Questionnaire (MHSQ), which evaluates self-management strategies in individuals with mood and anxiety disorders (Wang et al., 2022).

The SMHAQ and MHSQ serve crucial roles in mental health assessment, focusing on different aspects and populations. The MHSQ's strong internal consistency and good test-retest reliability demonstrate the importance of reliable and valid tools in mental health assessment. The SMHAQ's good overall internal consistency indicates its reliability in evaluating mental health awareness among teachers. However, variability in test-retest reliability suggests the need for further refinement (Morita et al., 2019).

Both the SMHAQ and MHSQ highlight the complexities involved in developing, adapting, and validating mental health assessment tools. Their reliability analyses indicate general reliability for their intended purposes, emphasising the need for ongoing refinement and validation. The critical role of cultural and linguistic adaptation in the development of these tools underscores the necessity of a rigorous methodological approach to ensure reliability and validity across diverse cultural contexts. This approach is crucial for advancing global mental health research and practice, allowing for more accurate assessment and understanding of mental health awareness and self-management strategies across different populations.

This discussion provides a more detailed exploration of the SMHAQ's findings, enhancing the depth and breadth of the analysis and setting a clear agenda for future research in this critical area of educational psychology. By examining the strengths and weaknesses of the SMHAQ, researchers can identify areas for improvement, particularly in terms of test-retest reliability. Additionally, the comparison with other tools like the MHSQ highlights the importance of tailored assessment instruments that address specific populations and contexts. Future research should focus on refining the SMHAQ to enhance its reliability and validity, ensuring it remains a valuable resource for educators in promoting MHL.

Conclusion

This study has rigorously assessed the reliability of the SMHAQ and confirmed its effectiveness in enhancing MHL among secondary school teachers in Malaysia. With a robust Cronbach's alpha of 0.85, the SMHAQ demonstrates strong internal consistency, making it a valuable tool for evaluating teachers' knowledge, attitudes and practices towards student mental health. The insights derived from this research help bridge the significant gap in assessing student MHL among educators, particularly within the Malaysian context.

However, the study's scope, limited to secondary school teachers in three Malaysian states, may not fully capture the national landscape. The two-week interval used for the test-retest reliability assessment may also not

sufficiently reflect the long-term stability of the SMHAQ. Future research should therefore expand to include a broader demographic and extend the period for reliability assessments to better understand the SMHAQ's long-term applicability and stability across diverse educational settings and cultural contexts.

Despite these limitations, the SMHAQ has proven to be a pivotal tool in fostering a supportive educational environment that facilitates the early identification and intervention of student mental health issues. By empowering educators with a deeper understanding of these concerns, the questionnaire not only supports the early implementation of interventions but also aligns with global strategies aimed at improving mental health outcomes. This study marks a significant step forward in integrating mental health support into educational frameworks, enhancing the well-being of students not only in Malaysia but potentially in other contexts globally.

This study highlights the critical role of reliable assessment tools in enhancing teacher MHL, which is essential for effective teaching practices and the development of supportive educational policies. By integrating the CMHAQ into teacher education programmes and policy frameworks, stakeholders such as the Ministry of Education Malaysia can better prepare educators to address the mental health needs of their students, ultimately contributing to improved educational outcomes and student well-being.

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Conflict of interest

The authors declare that there are no conflicts of interest regarding the publication of this paper. This research was conducted independently, and no relationships or activities influenced the outcomes of this study.

Ethical standards

This research upholds stringent ethical considerations to ensure the well-being and privacy of participants, particularly addressing the sensitive nature of discussions around student mental health. Participation is strictly voluntary, with provisions allowing individuals to withdraw at any time, safeguarding against emotional distress and ensuring the autonomy of participants.

Ethical integrity is further reinforced by a clear declaration of no conflicts of interest, maintaining the objectivity of the study. Privacy and confidentiality are paramount, with all data anonymised and securely stored, ensuring that personal information is protected in accordance with legal standards. The research is committed to contributing positively to societal understanding of student mental health through scholarly dissemination, with a view to fostering more informed and sensitive community practices.

Ethical approval has been obtained from the Human Research Ethics Committee of USM (USM/JEPeM/22090624), Social Work Section of the School of Social Sciences, with further clearance sought from national ethical boards, ensuring comprehensive adherence to ethical standards in the pursuit of enhancing knowledge and practices around student mental health. Approval for this study was granted by the Educational Research Application System (eRAS 2.0), overseen by the Ministry of Education, and subsequently by the State Department of Education in all three states. Directors of these departments were contacted via email to explain this study's objectives and teacher eligibility criteria.

The email included a link to the online survey, with a request to distribute it among eligible teachers. Before participating, respondents were provided details of the survey's purpose, content, and ethical considerations, including informed consent, as authorised by USM.

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