

# School-based mental health promotion and literacy: A thematic review of programs, frameworks, and implementation challenges

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## Abstract

Adolescent mental health has become an increasingly urgent global concern, with schools recognised as strategic settings for mental health promotion, prevention, and early intervention. Over the past two decades, a wide range of school-based mental health initiatives have been developed, including mental health literacy programs, universal preventive interventions, teacher capacity-building efforts, and whole-school approaches. However, existing evidence suggests that many initiatives remain fragmented and primarily focused on short-term outcomes. This article synthesises international literature on school-based mental health initiatives to identify dominant trends, methodological limitations, and directions for sustainable development. A narrative thematic literature review was conducted using peer-reviewed studies published between 2004 and 2025, resulting in 42 included articles that met predefined eligibility criteria and examined mental health programs, frameworks, and assessment practices within school settings. The findings indicate that mental health literacy and universal preventive programs consistently improve students' knowledge, attitudes, coping skills, and readiness to seek help, while teacher-focused training enhances educators' confidence and preparedness to identify and respond to student needs. Nevertheless, evidence of sustained behavioural change, system-level integration, and long-term effectiveness remains limited. Considerable heterogeneity in assessment tools also constrains comparability across studies and weakens cumulative evidence building. This review concludes that advancing sustainable school mental health systems requires integrated whole-school and multi-tiered approaches, strengthened guidance and counseling roles embedded within supportive school structures, and the adoption of standardised, culturally adaptable assessment strategies.

**Keywords:** *school mental health; mental health literacy; preventive promotion; whole-school approach; adolescents*



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## Introduction

Adolescence is a critical developmental period characterised by rapid biological, psychological, and social transitions in which vulnerability to mental health difficulties increases significantly. Global evidence identifies mental health disorders as one of the leading causes of disability among young people, with nearly half of lifetime conditions emerging before the age of 18 (Kutcher et al., 2015; Ray et al., 2025; WHO, 2022). However, many adolescents experiencing emotional distress do not access formal care due to stigma, cost and distance barriers, limited service availability, and a lack of early identification within community settings. In several countries, specialised services remain centralised in hospitals or referral centres, reducing accessibility for students who need timely support (Guerra et al., 2019). These systemic limitations reinforce the urgency of shifting from reactive, treatment-based approaches toward promotive and preventive models that support students before psychological difficulties escalate.

Schools therefore emerge as a pivotal institutional bridge that connects adolescent developmental needs with structured mental health support. Unlike clinical environments, schools provide daily, naturalistic spaces where academic performance, peer interaction, identity exploration, and emotional development intersect. Continuous interaction between students, peers, and educators positions the school as an accessible platform for mental health promotion, early recognition of emotional distress, and timely provision of support without the stigma commonly associated with clinical services (Hornby & Atkinson, 2004; Cavioni et al., 2020). This bridging function is particularly relevant for adolescents who may not voluntarily seek psychological assistance, as schools enable proactive engagement rather than self-initiated referral. In many contexts, teachers are the first adults to observe behavioural changes, declines in academic engagement, or indicators of emotional difficulty, making the school environment a strategic and culturally acceptable point of intervention (Wei et al., 2019; Yamaguchi et al., 2020).

A key distinction between school-based programs and traditional or “regular” mental health models lies in orientation and timing. Traditional approaches generally operate reactively—intervention occurs after symptoms reach clinical severity and students are referred for counselling or psychiatric care. These models, although necessary, often serve a limited population and struggle to address large-scale mental health needs (Gottfried et al., 2022). In contrast, school-based programs prioritise health promotion and universal prevention through classroom-embedded strategies, literacy programs, social-emotional learning, and capacity-building for educators. This shift enables earlier identification, wider reach, cultural relevancy, and the normalisation of psychological support in educational routines (Stallard, 2010; Tran et al., 2023). For instance, literacy-based initiatives such as teen Mental Health First Aid and Youth Mental Health First Aid not only improve knowledge and stigma reduction but also strengthen peer-support behaviours and readiness to seek help (Hart et al., 2022; Wilcox et al., 2023). Universal programs similarly contribute to improved coping skills, emotional regulation, and resilience, while teacher professional development enhances the confidence of educators as frontline responders (De Carvalho et al., 2021; Borah et al., 2024). Collectively, these developments mark a paradigm shift from individualised treatment toward systemic prevention and promotive school cultures.

Despite advancements, the literature continues to report persistent limitations. Many studies measure short-term outcomes such as knowledge or attitudes rather than longitudinal behavioural changes or well-being trajectories (Kirnan et al., 2025; Ride et al., 2025). Fragmented implementation, lack of integration between program components, and minimal alignment with school structures remain common challenges, particularly in systems unprepared for multi-tiered support. Even when teacher training improves knowledge and confidence, translation into consistent classroom practice and referrals is not always evident (Bourke et al., 2024; Gotham et al., 2025). These limitations underscore the need for contextually grounded models that integrate literacy, universal prevention, targeted support, early intervention, and staff capacity-building within a coherent whole-school or Multi-Tiered System of Support (MTSS).

Previous literature reviews have addressed specific domains such as literacy, stigma, or teacher training (Yamaguchi et al., 2020; Borah et al., 2024; Lyon et al., 2024). However, very few reviews evaluate these domains concurrently or compare how they interact as part of a systemic architecture. Reviews that do address systems-level perspectives are often centred on high-income countries, leaving a gap in evidence for diverse cultural and educational contexts, including low- and middle-income systems where implementation barriers differ (Kutcher et al., 2015; Ray et al., 2025). Therefore, the present review synthesises evidence spanning literacy programs, universal promotive–preventive approaches, teacher capacity-building, whole-school and multi-tiered frameworks, and implementation challenges to articulate what constitutes a more coherent, scalable, and contextually relevant direction for the development of sustainable school mental health systems. Accordingly, the objective of this review is to systematically examine how these domains operate across international school contexts in order to (1) identify dominant trends in school-based mental health initiatives, (2) evaluate methodological and implementation limitations, and (3) propose an integrated direction for strengthening sustainable and contextually relevant school mental health systems, particularly for low- and middle-income educational settings.

## **Method**

This study employed a narrative thematic literature review to synthesise international research on school-based mental health promotion, prevention, and literacy. A narrative approach was selected to accommodate the conceptual and methodological diversity of the literature, including empirical studies, program evaluations, and theoretical frameworks. The literature search was conducted in Scopus and PubMed for peer-reviewed articles published between 2004–2025, complemented by manual screening of reference lists from relevant reviews. The search focused on studies examining mental health initiatives implemented within school settings and targeting adolescents, educators, or whole-school systems.

To ensure transparency and methodological clarity, the study selection process followed three sequential stages. During the identification stage, a total of 150 records were retrieved through database searches (Scopus and PubMed), and an additional 10 records were obtained through manual screening of reference lists, producing 160 articles in the initial pool. After removing duplicates, 138 articles proceeded to the next phase. In the screening stage, titles and abstracts were evaluated based on relevance to school-based mental health promotion, prevention, mental health literacy, teacher capacity-building, and whole-school or multi-tiered frameworks. Studies focusing solely on clinical treatment models, non-school settings, non-adolescent populations, non-peer reviewed sources, and grey literature were excluded, resulting in 52 full-text articles eligible for further assessment. Finally, in the inclusion stage, full-text evaluation was conducted using predefined criteria: (1) implementation within school settings, (2) promotive or preventive orientation rather than clinical treatment, (3) publication in peer-reviewed journals, and (4) availability in English. Based on these parameters, 42 studies were included in the final synthesis, consisting of quantitative, qualitative, conceptual, and review-based publications.

Key information extracted from each study included research objectives, theoretical foundations, intervention characteristics, outcome measures, methodological approaches, and principal findings. An inductive thematic synthesis was then conducted to identify recurring patterns and conceptual gaps, with emphasis on sustainability, behavioural outcomes, assessment consistency, and implementation challenges across diverse educational and cultural contexts. This structured selection process strengthens the credibility of the review and supports the interpretability of findings in relation to the broader development of school-based mental health systems.

## Findings

To enhance transparency of evidence synthesis and address reviewer recommendations, the characteristics of the selected studies are summarised in Table 1. The table includes author, year, country, study type, intervention focus, and primary findings, allowing readers to understand the contextual distribution, methodological variation, and thematic emphasis of the included evidence.

**Table 1. Article Selection**

No	Authors (Year)	Study Type	Intervention / Focus	Key Findings
1	Hart et al. (2022)	Cluster RCT	Teen Mental Health First Aid	Demonstrated improvement in mental health literacy, reduced stigma, and maintained helping intentions up to 12 months.
2	Wilcox et al. (2023)	Longitudinal	Peer-support literacy	Improved peer-support knowledge, but behavioural outcomes were inconsistent across time.
3	Habgood et al. (2025)	Pilot Study	Digital literacy program	Reported high feasibility and acceptable user experience, though outcomes were short-term.
4	Gotham et al. (2025)	Experimental	Online teacher training	Increased teacher confidence; limited evidence of long-term implementation in classroom settings.
5	Yamaguchi et al. (2020)	Systematic Review	Teacher literacy	Teacher readiness increased; contextual and cultural adaptation challenges identified.
6	Stallard (2010)	Trial	FRIENDS CBT-based prevention	Decrease in anxiety symptoms and improved emotional regulation among students.
7	Tran et al. (2023)	Controlled Trial	Universal promotion	Improved psychological well-being; limited evidence on sustainability post-intervention.
8	Borah et al. (2024)	Review	Suicide prevention for teachers	Training improved knowledge and attitudes; implementation barriers remained significant.
9	Bourke et al. (2024)	Mixed Method	Educator capacity-building	Increased perceived competence; long-term changes in teacher practice remained unclear.
10	Geierstanger et al. (2024)	Evaluation	Youth MHFA for educators	Program feasible; effectiveness varied depending on institutional support.
11	Haste et al. (2025)	Qualitative	MH support teams in schools	Improved referral processes and collaboration; readiness influenced impact.
12	Desrochers (2015)	Conceptual	Whole-school frameworks	Highlighted importance of systemic prevention rather than isolated interventions.
13	Lyon et al. (2024)	Review	Implementation science	Identified fidelity, adaptation, and scaling challenges in school systems.
14	Ray et al. (2025)	Policy Review	National school MH model	Identified capacity, workforce, and resource gaps in low- and middle-income systems.
15	Buerger et al. (2023)	Validation Study	EPOCH-School tool	Demonstrated good psychometric reliability for adolescent well-being screening.
16	Serrão et al. (2024)	Adaptation Study	SSWQ screening	Effective for early identification of well-being concerns at low operational cost.
17	Tullius et al. (2024)	Psychometric	KAMHS measurement tool	Reliable for assessing literacy and attitude toward mental health topics.
18	Ride et al. (2025)	Systematic Review	Outcome measurement tools	Measurement diversity limited comparability across studies.

No	Authors (Year)	Study Type	Intervention / Focus	Key Findings
19	Hornby & Atkinson (2004)	Theoretical	Whole-school mental health	Established baseline model for comprehensive school mental health systems.
20	Cavioni et al. (2020)	Theoretical	SEL + MH integration	Promoted preventive and promotive culture through SEL integration.
21	Wei et al. (2019)	Survey	Gatekeeping role of teachers	Teachers identified as primary observers of early symptoms; workload affects response.
22	Guerra et al. (2019)	Cross-sectional	Access and equity	Found significant inequities in access to student mental health support.
23	Gottfried et al. (2022)	Program Evaluation	Referral pathway reform	Referral pathways improved when normalised within school culture.
24	Wingenbach et al. (2023)	Quasi-experimental	Digital teacher training	Digital delivery was as effective as face-to-face in short-term outcomes.
25	O'Reilly et al. (2018)	Mixed Method	Support policy review	Noted gaps between policy formulation and practical implementation.
26	Mazza et al. (2021)	Implementation Case	SEL-based MTSS model	Improved climate indicators; implementation fidelity varied.
27	Fazel et al. (2014)	Review	LMIC school systems	Most low-resource settings lacked sustainable infrastructure.
28	Kutcher et al. (2016)	Review	Comprehensive SMH model	Provided early guide for coordinated school mental health systems.
29	Patel et al. (2018)	Policy Analysis	Youth mental health provision	Resource disparities produced inconsistent service delivery.
30	Hoare et al. (2017)	Meta-analysis	Universal school prevention	Small to moderate effects across emotional outcomes.
31	Clarke et al. (2021)	Intervention	Tier-2 targeted support	Beneficial for identified-risk students; resource demands were high.
32	Kim et al. (2020)	RCT	SEL curriculum	Created higher engagement; culturisation needed for contextual fit.
33	Wong et al. (2022)	Cross-cultural	Help-seeking norms	Cultural beliefs significantly shaped willingness to seek support.
34	Ahmed et al. (2023)	Case Study	School counsellor role	Counsellor workload limited intervention follow-through.
35	Soma et al. (2022)	Survey	Teacher readiness	Readiness improved but structural constraints blocked practice.
36	Robinson et al. (2021)	Feasibility	Peer-support application	Acceptable to students; engagement decreased over time.
37	Carvalho et al. (2021)	Intervention	Mindfulness for educators	Reduced stress and improved relational practices in school settings.
38	Lopez et al. (2020)	Educational Reform	Policy alignment analysis	Noted misalignment between national policy and school capacity.
39	Jorm et al. (2010)	Evaluation	Mental Health First Aid curriculum	Served as foundation for later youth-oriented MHFA adaptations.
40	Miles et al. (2014)	Longitudinal	SEL whole-school initiative	Improved social climate; academic impact inconsistent.
41	Oberle et al. (2016)	School Climate	SEL-MH interaction	Positive school climate predicted stronger help-seeking attitudes.
42	Connors et al. (2021)	Implementation Study	Data-informed monitoring	Data systems improved continuity and monitoring of interventions.

The selected studies represent a diverse geographical distribution, reflecting both high-income and low- to middle-income educational systems. Research was primarily concentrated in Anglophone countries such as Australia, the United States, the United Kingdom, and Canada, where mental health literacy and whole-school frameworks have been more extensively trialed. Additional studies were conducted in Asia (Japan, South Korea, Hong Kong, Vietnam, India, Pakistan), Europe (Italy, Portugal, Germany), and Latin America (Brazil, Chile), highlighting

emerging implementation within culturally varied contexts. A smaller number of studies addressed global or multi-country perspectives, particularly those examining implementation science, outcome measurement, or systemic school mental health models. This distribution indicates that most empirical evidence originates from high-income contexts, while LMIC settings remain underrepresented and often characterised by resource constraints, workforce limitations, and policy practice gaps.

### Mental Health Literacy Programs

The literature consistently shows that school-based mental health literacy programs play a foundational role in improving adolescents' understanding of mental health and their readiness to seek or provide help. Programs such as teen and youth Mental Health First Aid (tMHFA/YMHFA) have demonstrated robust effects on students' mental health knowledge, stigma reduction, helping confidence, and intentions to seek help from trusted adults or peers (Hart et al., 2022; Wilcox et al., 2023). Importantly, evidence from large-scale and longitudinal studies suggests that some literacy-related outcomes, particularly helping intentions and confidence, may be sustained for up to 12 months following program completion (Hart et al., 2022). Similar gains have been reported in digital and blended literacy programs for both students and teachers, indicating high feasibility and acceptability within school contexts (Habgood et al., 2025; Gotham et al., 2025).

Despite these positive findings, the literature highlights several limitations. Most studies rely heavily on self-reported measures and short-term follow-up periods, with relatively few assessing actual behavioural outcomes such as observed peer support or documented help-seeking behaviour (Kirnan et al., 2025; Yamaguchi et al., 2020). Variations in adolescent mental health literacy are also evident across countries, with disparities shaped by cultural, educational, and informational access factors (Afendy et al., 2024). Furthermore, the majority of mental health literacy research has been conducted in high-income Western countries, raising concerns about cultural transferability and contextual relevance in low- and middle-income settings.

Improvements in knowledge, stigma reduction, and help-seeking intentions appeared consistently across literacy-oriented studies, particularly those evaluating youth and teen Mental Health First Aid and peer-support models (Hart et al., 2022; Wilcox et al., 2023; Habgood et al., 2025). Teacher- and technology-supported literacy approaches further strengthened outcomes, although with varied behavioural follow-through (Gotham et al., 2025; Wingenbach et al., 2023).

### Universal Preventive and Promotive Interventions

Beyond literacy-focused programs, a substantial body of evidence supports the effectiveness of universal school-based interventions aimed at promoting psychological well-being and preventing emotional difficulties. Programs grounded in cognitive behavioural, social-emotional learning, and resilience-based frameworks, such as the FRIENDS anxiety prevention program and universal mental health promotion initiatives in Vietnam, have demonstrated improvements in coping skills, emotional regulation, self-efficacy, and overall psychological well-being, alongside reductions in anxiety and depressive symptoms (Stallard, 2010; Tran et al., 2023). These findings reinforce the value of universal approaches that target the broader student population rather than focusing exclusively on at-risk groups.

However, the reviewed studies also indicate that long-term sustainability and scalability remain underexplored. Follow-up periods are often limited, and few studies examine how universal programs are embedded within school curricula or aligned with broader school mental health systems. Additionally, while these programs show promise in low- and middle-income contexts, generalisability across cultural and educational settings remains uncertain, underscoring the need for further contextual adaptation and rigorous evaluation (Tran et al., 2023). Universal promotive-preventive interventions such as SEL-based, CBT-based, and well-being programs consistently demonstrated benefits for coping skills and emotional regulation (Stallard, 2010; Tran et al., 2023;

Hoare et al., 2017). However, implementation durability and cultural adaptation remained uneven (Kim et al., 2020; Mazza et al., 2021).

### Teacher and School Staff Capacity-Building

The findings further emphasise the critical role of teachers and school staff as frontline supporters of student mental health. Capacity-building interventions, including Youth Mental Health First Aid, suicide prevention training, professional development programs, and online learning modules, consistently report improvements in educators' mental health knowledge, confidence, and perceived preparedness to identify and respond to students experiencing distress (Geierstanger et al., 2024; Borah et al., 2024; Wingenbach et al., 2023). These effects appear consistent across different delivery formats, including face-to-face, blended, and fully digital approaches, suggesting that scalable training models are feasible within diverse school systems.

Nevertheless, the literature reveals a recurring gap between improved self-reported competence and demonstrable changes in classroom practice, referral behaviour, or student mental health outcomes. Few studies include control groups, behavioural indicators, or long-term follow-up, limiting conclusions about the sustained impact of teacher training on school mental health systems (Bourke et al., 2024; Yamaguchi et al., 2020). These findings suggest that capacity-building initiatives, while necessary, may be insufficient when implemented in isolation from broader systemic supports. Capacity-building initiatives improved educators' confidence, classroom readiness, and early-response capability, particularly when training aligned with gatekeeping and referral responsibilities (Geierstanger et al., 2024; Borah et al., 2024; Wei et al., 2019). Even so, translation into long-term classroom practice was inconsistent (Soma & Kojima, 2022; Oberle & Schonert-Reichl, 2016). Capacity-building initiatives improved educators' confidence, classroom readiness, and early-response capability, particularly when training aligned with gatekeeping and referral responsibilities (Geierstanger et al., 2024; Borah et al., 2024; Wei et al., 2019). Even so, translation into long-term classroom practice was inconsistent (Soma & Kojima, 2022; Oberle & Schonert-Reichl, 2016).

### Whole-School and Multi-Tiered Approaches

A growing body of conceptual and empirical literature advocates for whole-school and multi-tiered frameworks as a means of addressing the fragmentation observed in many school mental health initiatives. Frameworks such as Multi-Tiered Systems of Support (MTSS) and whole-school mental health models emphasise the integration of universal promotion, targeted prevention, and early intervention within coherent school systems (Desrochers, 2015). Qualitative evaluations of embedded mental health support teams further suggest that whole-school approaches can enhance collaboration, streamline referral processes, and contribute to cultural shifts that normalise mental health discussions within schools (Haste et al., 2025).

Despite strong conceptual support, empirical evidence evaluating the effectiveness of whole-school models remains limited. Many studies focus on implementation processes and stakeholder perceptions rather than measurable student outcomes or long-term system change. Implementation challenges, including fidelity, staff turnover, resource constraints, and contextual adaptation, are frequently reported, particularly in non-Western and resource-limited settings (Lyon et al., 2024; Ray et al., 2025). These findings indicate that while whole-school and multi-tiered approaches hold significant promise, further rigorous and context-sensitive research is required to establish their effectiveness and sustainability. Whole-school and MTSS frameworks emphasised systemic alignment, prevention-to-intervention continuity, and organisational readiness (Hornby & Atkinson, 2004; Desrochers, 2015; Lyon et al., 2024). Nonetheless, LMIC settings showed barriers in workforce capacity and policy-practice coordination (Ray et al., 2025; Patel et al., 2018).

## Assessment and Measurement in School-Based Mental Health

The reviewed literature highlights assessment and measurement as an essential yet inconsistently addressed component of school-based mental health initiatives. Most studies relied on self-report instruments to assess changes in mental health literacy, stigma, confidence, or well-being, using a wide range of tools that varied substantially across studies. This heterogeneity limits comparability and cumulative knowledge development, particularly in universal and preventive school-based interventions (Ride et al., 2025). Additionally, many evaluations prioritised symptom-focused outcomes, with fewer studies systematically measuring positive mental health indicators or behavioural change.

Recent studies have begun to address these limitations through the development and adaptation of more comprehensive assessment tools suitable for school contexts. Multidimensional instruments, such as the Knowledge and Attitudes to Mental Health Scales, and school-adapted well-being measures, including the Student Subjective Well-Being Questionnaire and the EPOCH-School measure, have demonstrated acceptable psychometric properties and relevance for adolescent populations (Tullius et al., 2024; Serrão et al., 2024; Buerger et al., 2023). However, the integration of assessment data into ongoing monitoring, decision-making, and long-term evaluation remains limited, underscoring the need for standardised, culturally adaptable, and implementation-ready measurement strategies within whole-school mental health systems.

These measurement inconsistencies indicate the need for culturally grounded instruments that align with school-based realities rather than imported clinical models. Recent Indonesian studies demonstrate progress in this direction through the development and Rasch validation of school-sensitive assessment tools (Yusuf et al., 2025), along with systematic evidence of variations in adolescent mental health literacy that highlight the importance of contextualised educational approaches (Afendy et al., 2024). Assessment practices varied widely, with heterogeneity in outcome tools limiting comparability across studies (Ride et al., 2025; Tullius et al., 2024). Context-sensitive measurement progress is emerging, including Rasch-validated scales and adapted screening tools (Yusuf et al., 2025; Serrão et al., 2024; Afendy et al., 2024).

## Discussion

This review synthesised evidence on school-based mental health initiatives across multiple intervention levels, including mental health literacy programs, universal preventive approaches, teacher capacity-building, whole-school frameworks, and assessment practices. Collectively, the findings indicate that while substantial progress has been made in improving mental health knowledge, attitudes, and perceived competence within school settings, the translation of these gains into sustained behavioural change and system-level impact remains limited. Mental health literacy programs consistently demonstrate short-term effectiveness in enhancing knowledge, reducing stigma, and strengthening helping intentions (Hart et al., 2022; Wilcox et al., 2023); however, evidence of long-term behavioural outcomes, such as actual help-seeking or peer-support behaviours, remains scarce and inconsistently measured (Kirnan et al., 2025; Yamaguchi et al., 2020). This pattern reflects a broader tendency in school mental health research to prioritise proximal cognitive outcomes over distal behavioural and well-being indicators.

The findings further underscore the importance of moving beyond isolated, program-specific interventions toward more integrated and systemic approaches. Universal preventive and promotive programs have shown positive effects on students' coping skills, emotional regulation, and psychological well-being (Stallard, 2010; Tran et al., 2023), while teacher capacity-building initiatives consistently improve educators' confidence and perceived preparedness (Geierstanger et al., 2024; Borah et al., 2024). Nevertheless, when implemented in isolation, these interventions appear insufficient to generate sustained changes in school climate or student outcomes. Whole-school and multi-tiered frameworks, such as Multi-Tiered Systems of Support, have been proposed as mechanisms for integrating promotion, prevention, and early intervention within coherent

school systems (Hornby & Atkinson, 2004; Desrochers, 2015). Despite strong conceptual support, empirical evaluations of whole-school models remain limited, and implementation challenges related to fidelity, sustainability, and contextual adaptation continue to constrain their impact (Haste et al., 2025; Lyon et al., 2024).

Within this landscape, guidance and counseling teachers/school counselors occupy a strategic position as the operational link between individual student needs and the broader structure of school-based mental health promotion. Guidance and counseling teachers or school counselors function as first-line responders who identify early signs of distress, coordinate peer-support and referral pathways, provide structured preventive interventions, and facilitate collaboration between classroom teachers, parents, and community-based mental health providers. Unlike external clinical services, guidance and counseling services operate internally within the school routine, allowing for quicker engagement, reduced stigma, and culturally responsive forms of support. When integrated into a whole-school or multi-tiered support framework, guidance and counseling teachers/school counselors contribute to promotive–preventive efforts through targeted assistance, case management, and sustained continuity of care. Therefore, guidance and counseling is not a parallel or peripheral component, but a core mechanism that operationalises school-based mental health promotion at the classroom, service, and system levels.

Assessment and measurement practices also play a critical role in shaping the quality and interpretability of school mental health research. The reliance on heterogeneous self-report instruments across studies limits comparability and the accumulation of robust evidence, particularly in universal and preventive interventions (Ride et al., 2025). Although recent advances in multidimensional mental health literacy and well-being instruments, such as KAMHS, SSWQ, and EPOCH-School, represent progress (Tullius et al., 2024; Serrão et al., 2024; Buerger et al., 2023), their integration into routine school monitoring remains underdeveloped. Without structured use of assessment data, it remains difficult to determine whether observed improvements lead to enduring well-being gains and systemic change (Lyon et al., 2013; Connors et al., 2021).

## **Limitations**

This review has several limitations that should be acknowledged. First, the reliance on English-language peer-reviewed articles may exclude relevant work published in local languages, particularly from low- and middle-income countries where school mental health initiatives are emerging. Second, the included studies are diverse in design, outcome measurement, and implementation context, which limits direct comparability and may affect the generalisability of conclusions. Third, the dominance of self-report instruments in many studies reduces the strength of behavioural evidence, and the scarcity of longitudinal data restricts the ability to determine long-term sustainability. These limitations indicate the need for future research that employs multilingual evidence bases, mixed-method and longitudinal designs, and context-sensitive evaluation strategies.

Taken together, this review highlights the urgency of advancing more rigorous, integrative, and contextually grounded approaches to school mental health. Longitudinal assessment of behavioural outcomes, systematic integration of guidance and counseling within whole-school systems, and the use of standardised and culturally adaptable tools represent critical directions for strengthening sustainable school-based mental health ecosystems, especially in low-resource educational settings where evidence remains sparse (Kutcher et al., 2015; Ray et al., 2025). This limitation mirrors findings from Indonesian contexts, where validated instruments and MHL programs are still emerging and require strengthening at the school-based system level (Afendy et al., 2024; Yusuf et al., 2025).

## Conclusion

This literature review highlights the expanding scope of school-based mental health initiatives and underscores their important contributions to promoting adolescent well-being. Across diverse contexts, mental health literacy programs, universal preventive interventions, teacher capacity-building, and whole-school frameworks have demonstrated positive effects on knowledge, attitudes, coping skills, and perceived preparedness within school communities. Collectively, these findings reaffirm the strategic role of schools as settings for mental health promotion, prevention, and early intervention. At the same time, the review identifies persistent gaps that limit the long-term impact and sustainability of school-based mental health efforts. Many interventions remain focused on short-term cognitive outcomes, with limited evidence of sustained behavioural change, system-level integration, or longitudinal effectiveness. In addition, heterogeneity in assessment tools and evaluation designs constrains comparability across studies and weakens the cumulative evidence base. Addressing these gaps requires future research to adopt integrative, whole-school and multi-tiered approaches, strengthen teacher capacity within supportive systems, and utilise standardised, culturally adaptable assessment strategies. Advancing these priorities is essential for developing sustainable school mental health systems capable of supporting adolescent well-being across diverse educational and cultural contexts.

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