ASSESSING ADOLESCENT MENTAL HEALTH WITH MENTAL-Q (MENTAL HEALTH NAVIGATION TOOL FOR STUDENTS – QUESTIONNAIRE)

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Abstract
Adolescent mental health is a significant worldwide concern, and it is increasingly recognized that effective assessment tools are essential for identifying and treating mental health issues early on. This study examines mental health challenges and coping strategies among junior high school students using the MENTAL- Q (Mental Health Navigation Tool for Students - Questionnaire). The survey involved 261 students from SMP N "X" Bandung, SMP N "Y" Bandung, and SMP N "Z" Darmaraja Sumedang, assessing 37 statements of psychological well-being. Key findings include: (1) Prevalent academic stress, with 60% of respondents reporting sleep disturbances due to school pressures and 45% experiencing test anxiety; (2) Social-emotional difficulties, including fear of group work (35%) and negative self-comparison (40%); and (3) Effective coping strategies such as peer support (45%), physical activity (30%), and self-acceptance techniques (25%). Gender analysis revealed female students reported significantly higher stress levels (mean=3.8/5) than males (mean=2.9/5). The MENTAL-Q data demonstrates its utility in identifying at-risk students and underscores the urgency for school-based mental health programs. These results provide empirical evidence for developing targeted interventions in Indonesian educational settings.
Keywords: academic stress, adolescents, coping strategies, mental health, MENTAL-Q

INTRODUCTION

The mental health of adolescents is a major global concern, and the necessity of efficient evaluation instruments to detect and treat mental health problems at an early stage is becoming more widely acknowledged. Due to the major developmental changes they go through, adolescents are more susceptible to mental health issues, which, if left untreated, can cause psychological problems (Rojas-Mendoza et al., 2024). It is impossible to exaggerate how crucial early intervention and mental health literacy are for this population since they are essential for empowerment and prevention (Zenas et al., 2020). Adolescent mental health can be evaluated using a variety of instruments, each with advantages and disadvantages. The Youth Outcome Questionnaire (YP CORE) and the General Health Questionnaire (GHQ-12), for example, are recognized for their therapeutic utility, although many measures' overall psychometric quality is still below ideal (Bentley et al., 2019).

Furthermore, certain populations, especially those in juvenile detention, have utilized instruments like the Massachusetts Youth Screening Instrument (MAYSI-2) to detect severe mental health problems (Stathis et al., 2008). More reliable and all-encompassing tools that are broadly applicable in many contexts are nonetheless required.

Adolescents frequently struggle with mental health concerns; one in five of them report having such problems. The COVID-19 pandemic has caused a notable increase in prevalence (Chok et al., 2022). Adolescent mental health issues account for 15–30% of disability-adjusted life years during the first three decades of life, which makes them a major contributor to the global burden of disease (Dray, 2021). This emphasizes how important it is to implement efficient public health measures to deal with these problems. Relatively little solid research has been done on teenage mental health, especially when it comes to biological evidence and how it interacts with environmental and interpersonal factors (McDonagh & Bateman, 2012). The creation of comprehensive care solutions is hampered by this knowledge gap. Teenagers' help-seeking habits are greatly influenced by sociocultural elements, such as cultural norms and familial responsibilities. Designing successful interventions requires an understanding of these elements (Guo et al., 2015).

Increasing protective variables to build resilience has shown promise in treating teenage mental health issues. To strengthen the body of evidence, however, more thorough trials and improved reporting of intervention content are required (Dray, 2021). Technological developments and data linkage techniques can support thorough epidemiological studies, improving our knowledge and ability to treat mental health conditions at the patient level as well as in the population (Mansfield et al., 2020). Adolescents' growing need for mental health treatment emphasizes how inadequate existing methods are. A possible substitute is provided by digital mental health treatments, particularly in environments with limited resources (Zhou et al., 2023). Adolescent participation in the research process can yield insightful information and guarantee that the study takes into account their needs and viewpoints. Additionally, this strategy can improve the efficacy and relevance of mental health care (Meldahl et al., 2022; Viksveen et al., 2022).

New instruments that use technology to assess mental health have been made available by recent developments. Web-based technologies that use tailored recommendation algorithms and biological circuit analysis, for instance, have demonstrated great accuracy in early identification and intervention (Sowmiya et al., 2024). Ecological momentary assessments (EMAs) and mobile apps are also showing promise as ongoing monitoring and intervention techniques, offering real-time data that can improve comprehension and treatment of mental health conditions (Marciano et al., 2023; Reid et al., 2012). Even with the abundance of resources, there is still a lack of comprehensive, easily navigable, and reliable psychometric tools made especially for teenagers. In order to close this gap, the MENTAL-Q (Mental Health Navigation Tool for Students – Questionnaire) offers a valid and dependable instrument that is specifically designed to meet the needs of teenagers. This instrument guarantees that mental health concerns are recognized and dealt with as soon as possible because it is simple to use, understand, and incorporate into clinical and educational contexts. One important meta-affective component of students' science learning experiences is enjoyment. Teachers can use this knowledge to create science classes that are more entertaining and engaging, which will increase student enthusiasm and involvement (Rusyati et al., 2022).

METHOD

Survey design is the research methodology employed. In quantitative research, survey designs are methods that include distributing a questionnaire or survey to a small group of individuals (referred to as the sample) in order to find patterns in the attitudes, beliefs, actions, or traits of a larger group of individuals (referred to as the population) (Creswell, 2012). The sampling technique used is convenience sampling, a non-probabilistic sampling method in which participants are chosen based on their accessibility to the researcher (Suen et al., 2014). Table 1 presents 261 students from a public junior high school in Bandung and Sumedang, West Java, Indonesia, participated in the study.

Table 1 The Survey Participants

School Profile		Class Profile		Gender Profile	
SMP N "X" Bandung	92 (35.2%)	7th Grade	197 (75.5%)	Male	113 (43.3%)
SMP N "Y" Bandung	63 (24.1%)	8th Grade	13 (5%)	Female	148 (56.7%)
SMP N "Z" Darmaraja Sumedang	106 (40.7%)	9th Grade	51 (19.5%)		
Total					261

The MENTAL-Q questionnaire initially consisted of 46 statements assessing various dimensions of students' mental health. After conducting a Rasch model analysis in Winsteps (data from 30, the results showed that 37 statements (80.4%) demonstrated fit, with outfit Mean Square (MNSQ), outfit Z-Standard (ZSTD), and Point Measure Correlation (Pt Mean Corr) values within the optimal range. The remaining 9 statements (19.6%) were flagged as misfits, exhibiting MNSQ values outside the acceptable range or extreme ZSTD values, indicating potential issues with construct relevance or response patterns. The item reliability was high (e.g., 0.92), indicating that the items consistently measured the intended constructs. Similarly, person reliability (e.g., 0.88) demonstrated that respondents' abilities were measured consistently across the scale. Overall, the analysis confirmed the questionnaire's reliability while highlighting areas for refinement to ensure precise measurement of students' mental health.

RESULTS AND DISCUSSIONS

The MENTAL-Q questionnaire's analysis produced important insights into the coping strategies and mental health issues faced by students. Three significant trends in the experiences of students were identified by the data. First, a considerable percentage of respondents indicated that school-related pressures had a major impact on their wellbeing, indicating that academic-related stress was a common issue. Second, interpersonal and self-perception issues were frequently mentioned, emphasizing difficulty with confidence and collaborative learning settings. Third, the study found that students used a number of adaptive techniques, with differing reports of their efficacy, to cope with these demands.

Interestingly, gender-based analysis revealed unique patterns in how people perceive and react to stress. These quantitative results highlight particular areas that need intervention while offering empirical support for patterns in student mental health that have been noticed. Figure 1 describes gender analysis revealed female students reported significantly higher stress levels (mean=3.8/5) than males (mean=2.9/5).

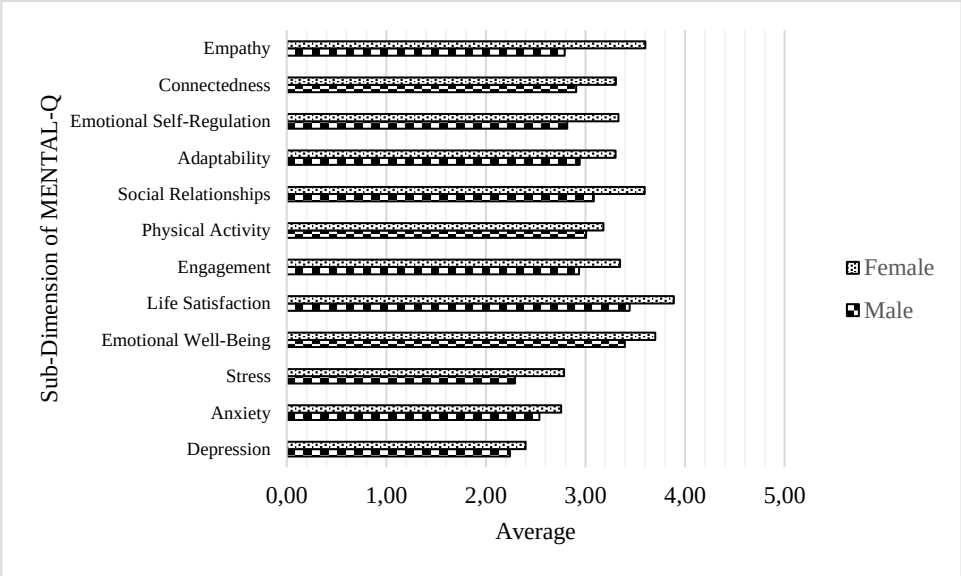

Figure 1. Gender Analysis of Adolescent Mental Health

Key findings include: (1) Prevalent academic stress, with 60% of respondents reporting sleep disturbances due to school pressures and 45% experiencing test anxiety; (2) Social-emotional difficulties, including fear of group work (35%) and negative self-comparison (40%); and (3) Effective coping strategies such as peer support (45%), physical activity (30%), and self-acceptance techniques (25%). Table 2 describes student response with MENTAL-Q.

Table 2. Profile of Students' Mental Health during Learning Science

Dimension	Sub-dimension	Statement Code	Statement	Statement Type	Student Response
Psychopathology This dimension assesses the presence of mental health disorders such as depression, anxiety, and stress.	**Depression** A persistent feeling of deep sadness, hopelessness, or emptiness that lasts for weeks or longer. It often leads to loss of interest in activities, fatigue, and difficulty concentrating, even in schoolwork.	1.	I feel exhausted and unmotivated when doing assignments, as if everything feels overwhelmingly heavy.	Negative (-)	1 (Never): 21.5% 2 (Rarely): 27.6% **3 (Sometimes): 34.9%** 4 (Often): 8.4% 5 (Always): 7.7%
		2.	I'm starting to lose interest in studying, even in subjects I used to enjoy. Everything feels pointless.	Negative (-)	**1 (Never): 50.2%** 2 (Rarely): 24.1% 3 (Sometimes): 17.2% 4 (Often): 6.9% 5 (Always): 1.5%
		3.	I feel trapped in negative thoughts. No matter how hard I try, I don't think I can catch up.	Negative (-)	**1 (Never): 31%** 2 (Rarely): 27.6% 3 (Sometimes): 18.8% 4 (Often): 11.9% 5 (Always): 10.7%
		4.	I feel like I can't stop thinking about things that make me sad.	Negative (-)	**1 (Never): 27.6%** 2 (Rarely): 19.5%

Dimension	Sub-dimension	Statement Code	Statement	Statement Type	Student Response
					3 (Sometimes): 23% 4 (Often): 14.9% 5 (Always): 14.9%
		5.	I lose my appetite or even overeat when I feel sad.	Negative (-)	**1 (Never): 47.9%** 2 (Rarely): 17.2% 3 (Sometimes): 18% 4 (Often): 8% 5 (Always): 8.8%
	Anxiety Excessive worry or fear about everyday situations, often accompanied by physical symptoms like rapid heartbeat, sweating, or trouble sleeping. It can make focusing in class or exams feel overwhelming.	6.	I panic suddenly when the teacher announces a pop quiz. My heart races, and I can't calm down even before starting.	Negative (-)	1 (Never): 16.1% 2 (Rarely): 21.1% **3 (Sometimes): 25.7%** 4 (Often): 23% 5 (Always): 14.2%
		7.	I avoid group work because I'm scared my ideas will be rejected. I stay quiet even when I have something to say.	Negative (-)	**1 (Never): 51%** 2 (Rarely): 17.2% 3 (Sometimes): 14.9% 4 (Often): 7.3% 5 (Always): 9.6%
		8.	I feel afraid or anxious when I have to speak in front of the class, even if I have prepared myself.	Negative (-)	1 (Never): 16.1% 2 (Rarely): 23.8% **3 (Sometimes): 29.9%** 4 (Often): 11.5% 5 (Always): 18,8%
	Stress A natural response to challenges or pressure, but when chronic, it can cause emotional and physical strain. Academic deadlines, exams, or	9.	I feel overwhelmed with all the piled-up assignment deadlines. Sometimes it even gives me headaches and I can't sleep properly.	Negative (-)	1 (Never): 27.2% **2 (Rarely): 28.4%** 3 (Sometimes): 17.6% 4 (Often): 13% 5 (Always): 13.8%
		10.	Before exams, my hands often get cold sweats and my mind goes blank. I'm afraid I won't remember what I've studied.	Negative (-)	**1 (Never): 28%** 2 (Rarely): 21.5% 3 (Sometimes): 17.2% 4 (Often): 17.2% 5 (Always): 16.1%

Dimension	Sub-dimension	Statement Code	Statement	Statement Type	Student Response
	personal issues often trigger it.	11.	I feel like there's never enough time. Between studying, extracurriculars, and social life, everything feels messy.	Negative (-)	**1 (Never): 34.5%** 2 (Rarely): 24.1% 3 (Sometimes): 17.6% 4 (Often): 12.6% 5 (Always): 11.1%
Subjective Well-Being This dimension evaluates the overall well-being and happiness of students, including their emotional, cognitive, and behavioral engagement.	**Emotional Well-Being** A state of positive psychological functioning characterized by healthy emotional regulation, frequent positive affect, and resilience to negative emotions.	12.	I feel happy and motivated when teachers explain things in engaging ways. It makes me want to keep learning new things.	Positive (+)	1 (Never): 5.7% 2 (Rarely): 5.7% 3 (Sometimes): 16.1% 4 (Often): 24.1% **5 (Always): 48.3%**
		13.	Even when stressed during exams, I can calm myself by taking deep breaths and reminding myself it's temporary.	Positive (+)	1 (Never): 10% 2 (Rarely): 12.6% **3 (Sometimes): 35.6%** 4 (Often): 22.2% 5 (Always): 19.5%
		14.	I can accept my shortcomings and not compare myself too much with others.	Positive (+)	1 (Never): 13% 2 (Rarely): 13% 3 (Sometimes): 25.3% 4 (Often): 19.9% **5 (Always): 28.7%**
	Life Satisfaction A cognitive-judgmental evaluation of one's overall quality of life based on perceived fulfillment of personal goals and circumstances.	15.	I feel satisfied with my learning progress this semester, even though some grades aren't perfect.	Positive (+)	1 (Never): 4.6% 2 (Rarely): 12.3% 3 (Sometimes): 26.8% 4 (Often): 24.9% **5 (Always): 31.4%**
		16.	Beyond academics, I enjoy time with friends and hobbies. My life feels balanced and meaningful.	Positive (+)	1 (Never): 6.9% 2 (Rarely): 11.1% 3 (Sometimes): 25.3% 4 (Often): 20.7% **5 (Always): 36%**
		17.	I learned to accept that not everything can be perfect, even perfection is not everything. The most important thing is that I continue to grow from day to	Positive (+)	1 (Never): 5% 2 (Rarely): 8.4% 3 (Sometimes): 24.1% 4 (Often): 17.2% **5 (Always): 45.2%**

Dimension	Sub-dimension	Statement Code	Statement	Statement Type	Student Response
			day, that alone means a lot.		
		18.	I feel optimistic about my future, despite the challenges at school.	Positive (+)	1 (Never): 8.8% 2 (Rarely): 10.3% 3 (Sometimes): 27.6% 4 (Often): 24.1% **5 (Always): 29.1%**
	Engagement The degree of focused involvement, energy, and attention invested in an activity, often leading to a state of flow.	19.	When working on my project task, I get so focused I lose track of time. All my ideas seem to flow smoothly.	Positive (+)	1 (Never): 10% 2 (Rarely): 18.4% **3 (Sometimes): 40.2%** 4 (Often): 14.9% 5 (Always): 16.5%
		20.	I'm always eager to ask questions and discuss in class because the topics fascinate me.	Positive (+)	1 (Never): 12.3% 2 (Rarely): 19.2% **3 (Sometimes): 31.8%** 4 (Often): 19.2% 5 (Always): 17.6%
		21.	I studied extra, like spending more time practicing and understanding the material, because I really enjoyed every process, not just to get grades.	Positive (+)	1 (Never): 6.9% 2 (Rarely): 15.3% **3 (Sometimes): 37.5%** 4 (Often): 21.1% 5 (Always): 19.2%
Quality of Life This dimension measures the overall quality of life, including physical activity, body image perception, and social relations.	**Physical Activity** Any bodily movement produced by skeletal muscles that requires energy expenditure, ranging from daily activities to structured exercise.	22.	I focus better after morning exercise. A refreshed body makes my mind clearer."	Positive (+)	1 (Never): 17.6% 2 (Rarely): 23.4% **3 (Sometimes): 29.1%** 4 (Often): 16.5% 5 (Always): 13.4%
		23.	When sitting too long, I get restless.	Negative (-)	**1 (Never): 33%** 2 (Rarely): 18.4% 3 (Sometimes): 24.1% 4 (Often): 11.5% 5 (Always): 13%
		24.	Exercising helps me reduce stress at school. Things feel lighter afterward.	Positive (+)	1 (Never): 14.2% 2 (Rarely): 21.1% **3 (Sometimes): 26.1%**

Dimension	Sub-dimension	Statement Code	Statement	Statement Type	Student Response
					4 (Often): 18.8% 5 (Always): 19.9%
	Social Relationships The connections and interactions between individuals that provide emotional support, companionship, or a sense of belonging.	25.	I'm more motivated to study when I have supportive groupmates. We can discuss and help each other understand the material.	Positive (+)	1 (Never): 6.5% 2 (Rarely): 5.7% 3 (Sometimes): 18.4% 4 (Often): 22.6% **5 (Always): 46.7%**
		26.	I feel accepted in this class. The teacher and classmates value my opinions, so I'm not afraid to ask questions or share ideas.	Positive (+)	1 (Never): 8.4% 2 (Rarely): 16.9% **3 (Sometimes): 33.7%** 4 (Often): 15.7% 5 (Always): 25.3%
		27.	When stressed about exams, confiding in my close school friend or teacher helps me feel calmer and less alone.	Positive (+)	1 (Never): 26.4% 2 (Rarely): 14.2% **3 (Sometimes): 26.1%** 4 (Often): 17.6% 5 (Always): 15.7%
Resilience and Coping This dimension assesses students' ability to adapt and cope with stress and challenges.	**Adaptability** The capacity to adjust thoughts, behaviors, and emotions effectively in response to new, changing, or uncertain situations.	28.	I was confused when the teacher suddenly switched from online to offline teaching or vice versa, but gradually I adapted my learning rhythm.	Positive (+)	1 (Never): 13% 2 (Rarely): 15.3% **3 (Sometimes): 36.8%** 4 (Often): 19.9% 5 (Always): 14.9%
		29.	When our group had to suddenly change project themes, I learned to quickly find new references and redistribute tasks.	Positive (+)	1 (Never): 12.3% 2 (Rarely): 16.1% **3 (Sometimes): 31.4%** 4 (Often): 21.5% 5 (Always): 18.8%
		30.	I was stressed when the exam format changed, but I varied my study strategies and got better results.	Positive (+)	1 (Never): 8.8% 2 (Rarely): 16.5% **3 (Sometimes): 37.9%** 4 (Often): 21.8% 5 (Always): 14.9%
	Emotional Self-Regulation	31.	Before presentations, my legs shake. I hold a pencil or other stuff to calm myself until	Positive (+)	1 (Never): 16.1% 2 (Rarely): 17.6% **3 (Sometimes): 23.4%** 4 (Often): 18.4%

Dimension	Sub-dimension	Statement Code	Statement	Statement Type	Student Response
	The ability to monitor, evaluate, and modify one's emotional reactions to achieve goal-directed outcomes.		my heartbeat slows down.		5 (Always): 24.5%
		32.	I almost snapped at my lazy group mates, but I remembered the purpose of our group work and in the end I chose to speak in a good manner.	Positive (+)	1 (Never): 18% 2 (Rarely): 13.8% **3 (Sometimes): 31%** 4 (Often): 20.3% 5 (Always): 16.9%
Social and Emotional Competence This dimension evaluates students' social skills and emotional intelligence.	**Connectedness** A sense of belonging and meaningful relationships with others, groups, or communities.	33.	In this class, I feel my opinions are heard. When I raise my hand, the teacher and classmates genuinely pay attention to what I want to say.	Positive (+)	1 (Never): 13% 2 (Rarely): 18.4% **3 (Sometimes): 34.5%** 4 (Often): 19.9% 5 (Always): 14.2%
		34.	My team feels like a second family. Even when we practice until night, it's enjoyable because we support each other.	Positive (+)	1 (Never): 17.2% 2 (Rarely): 18% **3 (Sometimes): 26.4%** 4 (Often): 14.9% 5 (Always): 23.4%
		35.	The school performance made me realize I'm part of something bigger. All students are different but still united.	Positive (+)	1 (Never): 13.4% 2 (Rarely): 12.6% **3 (Sometimes): 32.6%** 4 (Often): 16.5% 5 (Always): 24.9%
	Empathy The capacity to understand, share, and respond appropriately to the emotions and perspectives of others.	36.	I noticed my classmate was sad from how quiet she was. I offered to sit with her at lunch and listen to her story with full attention.	Positive (+)	1 (Never): 13.8% 2 (Rarely): 14.2% **3 (Sometimes): 32.6%** 4 (Often): 15.3% 5 (Always): 24.1%
		37.	I was annoyed with my slow-working group until I remembered how I once struggled too - maybe they're finding the material difficult.	Positive (+)	1 (Never): 13.4% 2 (Rarely): 12.6% **3 (Sometimes): 29.1%** 4 (Often): 21.8% 5 (Always): 23%

The data (Table 2) indicates that there is a mixed pattern in the mental health and wellness of students during science classes. Negative statements about stress, anxiety, and depression elicit significant responses, and a sizable portion of students report frequent or continuous

struggles. For instance, 34.9% of respondents occasionally feel exhausted and unmotivated, and 14.2% of respondents always experience anxiety during pop quizzes. A big reason is academic burnout, which is when students get tired of academics and lose interest in it over time (Leupold et al., 2020). Feelings of fatigue and lack of drive can be exacerbated by high levels of stress and anxiety. For example, excessive levels of stress are frequently reported by medical students, which can result in burnout and a decline in motivation (Başağaoğlu Demirekin & Buyukcavus, 2022; Iqbal et al., 2015). During pop quizzes, a sizable percentage of students feel anxious. This anxiety may be brought on by a worry of failing or performing poorly in school (Alshareef et al., 2025; Pachaiappan et al., 2023). Students who experience anxiety may perform worse on tests and quizzes. Students who experience high levels of test anxiety, for instance, could perform worse on exams and decision-making activities (Buelow & Barnhart, 2017; Mauriz et al., 2021).

Conversely, positive statements regarding emotional well-being, engagement, and resilience indicate healthier trends. For instance (Table 2), 48.3% of students say they always feel content and inspired when teachers deliver the material in an interesting way, and 46.7% of students say they always find motivation in encouraging group members. Students' emotional and motivational outcomes are greatly impacted by their teachers' passion and emotional support. Teachers' positive emotions can increase students' motivation and engagement, which improves their academic achievement and general well-being (Burić & Moè, 2020; Xiong, 2025). There is a reciprocal association between higher levels of student emotional engagement and teachers' work satisfaction and emotional tiredness, suggesting that engaged students have a favorable impact on teachers' well-being (Burić et al., 2024). Peer support and group encouragement are essential for fostering motivation and resilience. Peer support and encouraging remarks can greatly increase students' resilience and participation, particularly in demanding academic environments (Li et al., 2024; Zhan et al., 2024). For students to be engaged, both internal and external motives are necessary. Higher engagement and resilience are closely associated with intrinsic motivation, which is fueled by interest and enjoyment in the subject. While extrinsic motivation, including incentives and support, is important, its long-term impacts may differ (Cheo, 2017; Longakit et al., 2025).

Empathy and social connections are also crucial (Table 2); 32.6% of students can occasionally recognize and respond to their peers' emotions. Overall, while challenges like stress and disengagement persist, many students demonstrate adaptability, positive coping strategies, and strong social-emotional skills, indicating a balance between struggles and resilience in their learning experiences. Establishing helpful learning environments requires empathy. Positive student growth and excellent teacher-student relationships depend heavily on teachers' social-emotional skills, which include empathy. However, in order to make reliable conclusions, additional objective evaluations of teachers' empathy are required (Aldrup et al., 2022). Student involvement and mental health are greatly impacted by teachers' empathy. Students who consider their teachers to be more empathetic report feeling less stressed, anxious, and depressed, and they also participate more actively in class activities. This emphasizes how crucial it is to develop sympathetic teacher-student interactions in order to support students' resilience and general wellbeing (Ampofo et al., 2025). The ability to recognize and characterize one's own feelings as well as those of others is known as emotional awareness, and it is a part of meta-affective skills. It is linked to improved coping mechanisms, mood control, and general mental wellness (Lane & Smith, 2021).

CONCLUSION

The MENTAL-Q questionnaire's analysis reveals important psychological difficulties that students encounter, especially in the social-emotional and academic areas. The results show that interpersonal engagement issues, stress from academic responsibilities, and the efficacy of coping strategies vary. Interestingly, gender disparities in stress perception show different support needs. Although certain items need to be improved to increase measurement precision, psychometric evaluation shows the instrument's good reliability. These revelations highlight how crucial it is to apply specialized mental health techniques in learning settings. In order to promote student resilience and well-being, future work should concentrate on establishing comprehensive, gender-responsive interventions and optimizing evaluation techniques. The study adds to the continuing conversations about improving academic settings' mental health support networks.

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