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# Examining Mental Health Literacy among Iranian Teachers through Item Level Analysis

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# Abstract

Teachers play a critical role in the early identification and support of students with mental health difficulties. However, most mental health literacy (MHL) research relies on total or subscale scores, potentially obscuring important item-level variations. This study examined item-level MHL patterns among Iranian teachers across the six dimensions of the Mental Health Literacy Scale (MHLS), identifying specific strengths, weaknesses, and intervention priorities. A cross-sectional survey was conducted among 1,649 public school teachers in Tehran Province, Iran (March–April 2025). Participants completed the Persian 35-item MHLS. Item-level descriptive analyses were performed across all dimensions. A Crisis Hotspot Index (CHI) was calculated, representing the proportion endorsing least favorable responses. Teachers demonstrated strong recognition of major depressive disorder (88.0%) and bipolar disorder (82.9%), good understanding of crisis confidentiality, and confidence in using technology for mental health information. However, important gaps emerged in recognizing agoraphobia and personality disorders, understanding gender-related risk patterns, distinguishing adaptive from maladaptive coping, and applying confidentiality in non-emergency situations. Although help-seeking attitudes were generally positive, substantial stigmatizing beliefs persisted. The highest CHI values were observed for social distance items related to family integration (83.7%), employment (82.9%), and political leadership (80.5%). A discrepancy emerged between strong knowledge and negative attitudes toward mental illness. Aggregate scoring masks this heterogeneous pattern. Item-level analysis identified stigma and social distance as key priorities, demonstrating the value of disaggregated scoring for targeted interventions.


# Background

Student mental health is the cornerstone of effective learning and the sustainable development of societies. The World Health Organization [1] defines mental health as a state of well-being in which individuals realize their abilities, cope with normal life stresses, work productively, and contribute to their communities.

Despite its importance, mental health conditions among youth have become a growing public health concern globally. A 2025 WHO/Europe report indicates that one in seven adolescents (10–19 years) in the region lives with a mental disorder, with prevalence increasing by approximately one-third over 15 years [2]. Global estimates range from 6.8–12.4% [3], while in the US nearly 40% of high school students report persistent sadness/hopelessness and youth suicide rates have shown marked increases in recent years [4]. A 2025 Australian longitudinal study found 74% of adolescents experienced significant depression/anxiety symptoms at least once [5].

In Iran, epidemiological evidence on child and adolescent mental health remains limited. A 2019 national population-based cross-sectional study (the IRCAP project) reported that 22.31% of children and adolescents aged 6–18 years were diagnosed with at least one psychiatric disorder using the validated Kiddie Schedule for Affective Disorders and Schizophrenia (K-SADS-PL) clinical interview [6].

Complementing these findings, a regional birth cohort study limited to Fars province reported that 10.78% and 13.16% of children aged 9–12 years scored in the borderline and abnormal ranges on the SDQ, respectively [7]. These figures highlight a substantial burden, emphasizing the need for early school-based identification and intervention—the effectiveness of which is strongly dependent on teachers' mental health literacy (MHL), a key factor associated with timely support and referral [8, 9].

Schools represent a primary setting for the early identification and support of children with mental health difficulties, given their broad reach and continuous contact with young populations, making them an optimal context for promoting mental health literacy (MHL) [10]. Mental health literacy, first conceptualized by Jorm et al. [11], refers to knowledge and beliefs that enable the recognition, management, and prevention of mental disorders. Kutcher et al. [12] expanded the concept into four core components: (1) understanding how to obtain and maintain mental health, (2) recognizing mental disorders and their treatments, (3) reducing stigma associated with mental disorders, and (4) enhancing help-seeking efficacy (knowing when, where, and how to seek care). O'Connor and Casey [13] operationalized the construct by developing the Mental Health Literacy Scale (MHLS), comprising six dimensions: recognition of mental disorders, knowledge of risk factors, knowledge of self-treatment, knowledge of professional help available, knowledge of information sources, and attitudes influencing early recognition and help-seeking.

Within this context, teachers— who maintain the closest and most sustained interaction with students— play a central role in early identification, referral, and the creation of supportive learning environments [14, 15]. However, evidence suggests that many teachers feel undertrained, possessing limited or sometimes inaccurate knowledge [16]. The COVID-19 pandemic, through school closures, social isolation, loss of loved ones, and economic stress, further threatened student mental health, highlighting the urgency of teacher preparedness [17, 18].

Despite the recognized role of teachers in promoting student mental health, existing research has predominantly focused on aggregate scores or subscale-level analyses, often comparing mean scores across demographic groups such as gender or age [19]. While these studies provide useful insights into general trends, they overlook item-level variations, which are critical for understanding specific knowledge gaps, misconceptions, and potential contradictions—such as the coexistence of high knowledge with stigmatizing attitudes— among teachers.

Consequently, key questions remain unanswered across all dimensions of teachers' mental health literacy—from recognition of mental disorders and knowledge of risk factors and causes to self-treatment knowledge, awareness of available professional support, ability to seek mental health information, and attitudes toward recognition and appropriate help-seeking—highlighting the need for item-level analysis beyond aggregate scores.

Mental health literacy among teachers may be influenced by contextual factors, including variations in access to mental health resources, socioeconomic conditions, and local educational environments [20]. However, evidence regarding these patterns remains limited in many settings, including Iran.

To address this gap, the present study examines item-level patterns of mental health literacy among teachers in Tehran Province with the aim of identifying specific strengths, weaknesses, and intervention priorities that may inform teacher professional development and school mental health initiatives. Building on this rationale, the study moves beyond aggregate scoring approaches by conducting a comprehensive item-level analysis of all 35 items of the Mental Health Literacy Scale (MHLS) across its six dimensions. The analytical approach was conceptually informed by the HLS19 framework [21], particularly its emphasis on examining response distributions to identify areas of strength and limitation that may not be apparent from aggregate indicators alone.

Accordingly, detailed item-level responses are analyzed to identify strengths, weaknesses, and potential contradictions in teachers' mental health literacy. In addition, a Crisis Hotspot Index (CHI) is applied as a pragmatic tool to identify items with substantial concentrations of unfavorable responses and potential intervention priorities. By providing a more granular understanding of teachers' mental health literacy, the study aims to generate actionable evidence for the design of targeted professional development programs and to contribute to broader efforts to strengthen school mental health systems in diverse educational contexts.

**Objective:** To identify strengths and weaknesses in teachers' knowledge, attitudes, and self-efficacy across the individual items of the six dimensions of mental health literacy (MHL), thereby informing the development of targeted professional development interventions.

## Research Question:

What item-level strengths, weaknesses, and contradictions characterize teachers' mental health literacy across the six dimensions of the MHLS?

## Methods

# Study Design

This study employed a quantitative, descriptive–diagnostic, cross-sectional survey design. The primary aim was to conduct an item-level analysis of mental health literacy (MHL) among teachers using the Mental Health Literacy Scale (MHLS). This granular approach was chosen because it enables fine-grained diagnostic insights—identifying specific strengths, weaknesses, misconceptions, and contradictions across individual items and the six dimensions—rather than relying on traditional aggregate or subscale scores. Consequently, it provides actionable information for designing targeted, precision-oriented professional development interventions.

## Participants

The target population consisted of all teachers employed in public schools across the counties of Tehran Province, Iran, during the 2024–2025 academic year. Based on Comrey and Lee's recommendations for sample size adequacy in survey research [22], a minimum of 1,000 participants was targeted (≥ 1,000 = excellent). A total of 1,666 teachers completed the online questionnaire. After excluding 17 incomplete responses, 1,649 valid cases were included in the analysis (valid response rate: 98.98%).

Convenience sampling was used due to logistical constraints associated with online distribution across multiple counties. Inclusion criteria were: (a) current employment as a school teacher in counties of Tehran Province during the 2024–2025 academic year, (b) at least one year of teaching experience, and (c) willingness to participate.

## Data Collection Instrument

Teachers' mental health literacy was assessed using the 35-item Mental Health Literacy Scale (MHLS), originally developed by O'Connor and Casey [12] and cross-culturally adapted and validated in Persian contexts [23, 24]. The Persian version used in this study retained the original 35 items and the six-dimensional structure validated by Jafari et al. [24]. These dimensions include: (a) recognition of mental disorders (items 1–8), (b) knowledge of risk factors (items 9–10), (c) knowledge of self-treatment (items 11–12), (d) knowledge of professional help available (items 13–15), (e) knowledge of information sources (items 16–19), and (f) attitudes influencing recognition and help-seeking (items 20–35).

Items 1–15 are rated on a 4-point Likert scale (1 = very unlikely/completely useless to 4 = very likely/very useful), while items 16–35 are rated on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). Reverse scoring was applied to items 10, 12, 15, and 20–28 so that higher scores consistently reflect greater MHL. Total scores range from 35 to 160.

Consistent with previous validation studies, the scale demonstrated good internal consistency in the current study (Cronbach's α = 0.87). Prior to the main data collection, a pilot study was conducted with 30 teachers to evaluate questionnaire clarity, feasibility, and administration time. No modifications to the items were necessary.

## Data Collection Procedure and Ethical Considerations

The questionnaire was administered online via the secure Porsline platform. Data collection was conducted from March to April 2025. The survey link was distributed through multiple professional educator networks across Tehran Province counties to reach teachers from different school levels.

Participants were first presented with an information sheet outlining the study objectives, guaranteeing confidentiality and anonymity, emphasizing the voluntary nature of participation, and informing them of their right to withdraw at any time without consequences. Electronic informed consent was obtained prior to accessing the main questionnaire. The survey took approximately 10–15 minutes to complete.

This study was conducted with approval from and coordination with the Ministry of Education and the regional education authorities of Tehran Province counties, Iran. All participants provided electronic informed consent prior to participation. The study was anonymous, voluntary, and non-invasive

# Data Analysis

All analyses were conducted at the item level using descriptive statistics in IBM SPSS Statistics (version 26). For each of the 35 items, frequencies, response percentages, means, and standard deviations were calculated. Mean ranks were determined for items within each dimension to identify the hierarchy of strengths and weaknesses. To operationalize the identification of priority areas for intervention, a "Crisis Hotspot Index" was calculated for each item, representing the percentage of respondents who endorsed the two least favorable response options:

Recognition, risk factor, and professional help items: very unlikely / unlikely

Self-treatment items: completely useless / useless

Negatively worded attitude items: agree / strongly agree

Items with a Crisis Hotspot Index exceeding 30% were considered priority intervention targets. This threshold was selected based on response distribution and practical relevance for educational planning.

While informed by the methodological framework of the HLS19 international health literacy survey [21], the present study represents an extension of item-level analytical application. Specifically, the Average Percentage Response Patterns (APRP) approach—originally developed for instrument-level or subscale-level reporting in large-scale health literacy surveys—was adapted and applied at the individual item level. This approach enables a more granular examination of response distributions, allowing for the identification of item-specific patterns of low endorsement and potential misconceptions. By disaggregating responses at the item level, the study provides a diagnostic overview of teacher mental health literacy that may not be fully captured through aggregate scoring approaches.

# Results

A total of 1,649 school teachers participated in the study. The sample was predominantly female (93.9%) and mostly married (79.6%). Most participants held a bachelor’s degree (71.5%) and were trained in educational sciences or psychology (44.3%). Over half (52.0%) had five or fewer years of teaching experience. The majority were from suburban counties of Tehran Province (85.9%) (Table 1).

Table 1
Profile of the Study Population (N = 1,649)

| Characteristic | No. (%) or Mean ± SD |
|---|---|
| **Gender** | |
| Female | 1,549 (93.9) |
| Male | 100 (6.1) |
| **Age (years)** | |
| Mean ± SD | 38.0 ± 8.5 |
| Median (IQR) | 38.0 (32.0–44.0) |
| **Age Group (years)** | |
| ≤ 30 | 339 (20.6) |
| 31–40 | 700 (42.5) |
| 41–50 | 497 (30.2) |
| 51–60 | 103 (6.2) |
| ≥ 61 | 10 (0.6) |
| **Marital Status** | |
| Married | 1,313 (79.6) |
| Single | 336 (20.4) |
| **Educational Level** | |
| Associate Degree | 79 (4.8) |
| Bachelor's Degree | 1,179 (71.5) |
| Master's Degree | 376 (22.8) |
| PhD | 15 (0.9) |
| **Field of Study** | |
| Educational Sciences & Psychology | 731 (44.3) |
| Humanities | 487 (29.5) |
| Basic Sciences | 267 (16.2) |
| Engineering | 97 (5.9) |

Note. Percentages may not sum to 100% due to rounding. *Other includes Foreign Languages (n = 30), School Health (n = 23), and Arts (n = 14).

| Characteristic | No. (%) or Mean ± SD |
|---|---|
| **Gender** | |
| Other* | 67 (4.1) |
| **Teaching Experience (years)** | |
| ≤ 5 | 857 (52.0) |
| 6–10 | 295 (17.9) |
| 11–15 | 155 (9.4) |
| 16–20 | 157 (9.5) |
| ≥ 21 | 185 (11.2) |
| **Residence** | |
| Tehran City | 233 (14.1) |
| Tehran Province Counties | 1,416 (85.9) |
| Note. Percentages may not sum to 100% due to rounding. *Other includes Foreign Languages (n = 30), School Health (n = 23), and Arts (n = 14). | |

Teachers showed generally good recognition of common mental disorders, with mean scores ranging from 2.95 to 3.28 on the 4-point scale. Recognition was highest for Major Depressive Disorder (M = 3.28, SD = 0.82; 88.0% likely or very likely), followed by Social Phobia and Bipolar Disorder (both M = 3.16). Lower recognition was observed for Agoraphobia (M = 2.95, SD = 0.72) and Personality Disorders (M = 3.04, SD = 0.86). Approximately 18% to 20% of teachers did not correctly identify Drug Dependence and Personality Disorders as mental health conditions (Table 2).

Table 2
Item-level response distribution for mental disorder recognition (MHLS subscale) among teachers (N = 1,649)

| Item | Description | Very Unlikely, n (%) | Unlikely, n (%) | Likely, n (%) | Very Likely, n (%) | Mean (SD) | Rank |
|---|---|---|---|---|---|---|---|
| 1 | Social Phobia | 89 (5.4) | 131 (7.9) | 848 (51.4) | 581 (35.2) | 3.16 (0.78) | 2 |
| 2 | Generalized Anxiety Disorder (GAD) | 88 (5.3) | 142 (8.6) | 892 (54.1) | 527 (32.0) | 3.13 (0.77) | 3 |
| 3 | Major Depressive Disorder (MDD) | 100 (6.1) | 98 (5.9) | 684 (41.5) | 767 (46.5) | 3.28 (0.82) | 1 |
| 4 | Personality Disorders as mental illness | 126 (7.6) | 200 (12.1) | 804 (48.8) | 519 (31.5) | 3.04 (0.86) | 6 |
| 5 | Dysthymia | 112 (6.8) | 170 (10.3) | 880 (53.4) | 487 (29.5) | 3.06 (0.82) | 4 |
| 6 | Agoraphobia | 78 (4.7) | 231 (14.0) | 1,034(62.7) | 306 (18.6) | 2.95 (0.72) | 7 |
| 7 | Bipolar Disorder | 116 (7.0) | 167 (10.1) | 710 (43.1) | 656 (39.8) | 3.16 (0.87) | 2 |
| 8 | Drug Dependence | 131 (7.9) | 209 (12.7) | 748 (45.4) | 561 (34.0) | 3.05 (0.88) | 5 |

A large majority of teachers (80.3%) correctly indicated that women are more likely than men to experience any mental disorders (Item 9: M = 3.02, SD = 0.79). In contrast, 35.2% endorsed the statement that men are more likely to experience anxiety disorders (Item 10, reverse-scored: M = 2.28, SD = 0.78) (Table 3).

Table 3
Distribution of responses to knowledge of risk factors items (N = 1,649)

| Item | Description | Very Unlikely, n (%) | Unlikely, n (%) | Likely, n (%) | Very Likely, n (%) | Mean (SD) | Rank |
|---|---|---|---|---|---|---|---|
| 9 | Women more likely to experience any mental illness | 86 (5.2) | 240 (14.6) | 880(53.4) | 443 (26.9) | 3.02 (0.79) | 1 |
| 10 (R) | Men more likely to experience anxiety disorder | 222 (13.5) | 845 (51.2) | 474 (28.7) | 108 (6.5) | 2.28 (0.78) | 2 |

Teachers generally recognized the benefits of improving sleep quality (Item 11: 88.7% helpful or very helpful, M = 3.20, SD = 0.71). In contrast, 28.4% endorsed avoiding anxiety-provoking situations as a helpful strategy (Item 12, reverse-scored: M = 2.15, SD = 0.83) (Table 4).

Table 4
Distribution of responses to self-treatment items (N = 1,649)

| Item | Description | Very Unhelpful, n (%) | Unhelpful, n (%) | Helpful, n (%) | Very Helpful, n (%) | Mean (SD) | Rank |
|---|---|---|---|---|---|---|---|
| 11 | Improving sleep quality | 51 (3.1) | 135 (8.2) | 899 (54.5) | 564 (34.2) | 3.20 (0.71) | 1 |
| 12 (R) | Avoiding all anxiety-provoking situations | 341 (20.7) | 839 (50.9) | 353 (21.4) | 116 (7.0) | 2.15 (0.83) | 2 |
| Note. (R) = Reverse-scored item. | | | | | | | |

Teachers demonstrated strong knowledge regarding breach of confidentiality in cases of immediate risk of harm (Item 14: 81.8%, M = 3.43, SD = 0.68) and the effectiveness of Cognitive Behavioral Therapy (Item 13: 89.7%, M = 3.10, SD = 0.61). However, 35.1% endorsed breaching confidentiality in non-life-threatening situations (Item 15, reverse-scored: M = 2.26, SD = 0.93) (Table 5).

Table 5
Distribution of responses to knowledge of professional help items (N = 1,649)

| Item | Description | Very Unlikely, n (%) | Unlikely, n (%) | Likely, n (%) | Very Likely, n (%) | Mean (SD) | Rank |
|---|---|---|---|---|---|---|---|
| 13 | Cognitive Behavior Therapy (CBT) | 31 (1.9) | 138 (8.4) | 1,110 (67.3) | 370 (22.4) | 3.10 (0.61) | 2 |
| 14 | Confidentiality: immediate risk of harm | 30 (1.8) | 86 (5.2) | 675 (40.9) | 675 (40.9) | 3.43 (0.68) | 1 |
| 15(R) | Confidentiality: non-life-threatening situations | 347 (21.0) | 723 (43.8) | 379 (23.0) | 200 (12.1) | 2.26 (0.93) | 3 |

Most teachers reported confidence in using technology to seek mental health information (Item 17: 66.3%, M = 3.70, SD = 1.21), followed by attending face-to-face appointments (Item 18: 59.5%, M = 3.54, SD = 1.23) and accessing help-seeking resources (Item 19: 57.9%, M = 3.52, SD = 1.23). Fewer expressed confidence in knowing where to seek information (Item 16: 46.8%, M = 3.41, SD = 1.05) (Table 6).

Table 6
Distribution of responses to knowledge of information sources items (N = 1,649)

| Item | Description | Strongly Disagree, n (%) | Disagree, n (%) | Neither Agree Nor Disagree, n (%) | Agree, n (%) | Strongly Agree, n (%) | Mean (SD) | Rank |
|---|---|---|---|---|---|---|---|---|
| 16 | Knowing where to seek information | 44 (2.8) | 291 (17.6) | 541 (32.8) | 491 (29.7) | 282 (17.1) | 3.41 (1.05) | 4 |
| 17 | Using technology for info-seeking | 46 (2.8) | 365 (22.1) | 146 (8.9) | 570 (34.6) | 522 (31.7) | 3.70 (1.21) | 1 |
| 18 | Attending face-to-face appointments | 89 (5.4) | 347 (21.0) | 233 (14.1) | 552 (33.5) | 428 (26.0) | 3.54 (1.23) | 2 |
| 19 | Accessing help-seeking resources | 90 (5.5) | 351 (21.3) | 253 (15.3) | 528 (32.0) | 427 (25.9) | 3.52 (1.23) | 3 |

Regarding mental health attitudes, teachers demonstrated generally positive attitudes toward help-seeking. A large majority rejected the idea that they would not seek professional help (Item 27: 83.5%, M = 4.52, SD = 1.05) and that treatment for mental illness would be ineffective (Item 28: 83.0%, M = 4.50, SD = 0.96). Most participants also disagreed that seeking help reflects personal weakness (Item 26: 72.1%).

Despite these favorable orientations, stigmatizing beliefs remained prevalent. Approximately half of the teachers endorsed the view that mental illness is not a real medical condition (Item 22: 52.0%) or is a sign of personal weakness (Item 21: 47.9%). A notable minority endorsed the misconception that individuals can simply “snap out of” mental illness (Item 20: 38.9%). More pronounced stigma was observed in social perceptions, with substantial proportions believing that people with mental illness are dangerous (Item 23: 61.7%), that it is best to avoid them (Item 24: 67.9%), or that they would not disclose their own mental illness (Item 25: 60.9%) (Table 7, Section 1).

Table 7
, Section 1. Distribution of responses to mental health attitudes (N = 1,649)

| Item | Description | Strongly Disagree, n (%) | Disagree, n (%) | Neither Agree Nor Disagree, n (%) | Agree, n (%) | Strongly Agree, n (%) | Mean (SD) | Rank |
|---|---|---|---|---|---|---|---|---|
| 20 (R) | People with a mental illness could snap out of it if they wanted | 244 (14.8) | 467 (28.3) | 296 (18.0) | 429 (26.0) | 213 (12.9) | 2.94 (1.28) | 9 |
| 21 (R) | Mental illness is a sign of personal weakness | 130 (7.9) | 291(17.6) | 438 (26.6) | 351 (21.3) | 439 (26.6) | 3.41 (1.27) | 8 |
| 22 (R) | Mental illness is not a real medical illness | 83 (5.0) | 153 (9.3) | 555 (33.7) | 225 (13.6) | 633 (38.4) | 3.71 (1.21) | 6 |
| 23 (R) | People with mental illness are dangerous | 83 (5.0) | 205 (12.4) | 344 (20.9) | 649 (39.4) | 368 (22.3) | 3.61 (1.11) | 7 |
| 24 (R) | Best to avoid people with a mental illness | 50 (3.0) | 120 (7.3) | 359 (21.8) | 346 (21.0) | 774 (46.9) | 4.02 (1.12) | 4 |
| 25 (R) | If I had a mental illness, I would not tell anyone | 75 (4.5) | 121 (7.3) | 449 (27.2) | 327 (19.8) | 677 (41.1) | 3.86 (1.17) | 5 |
| 26 (R) | Seeking help means not being strong enough | 105 (6.4) | 153 (9.3) | 202 (12.2) | 241 (14.6) | 948 (57.5) | 4.08 (1.28) | 3 |
| 27 (R) | Would not seek professional help if I had a mental illness | 65 (3.9) | 54 (3.3) | 153 (9.3) | 71 (4.3) | 1,306 (79.2) | 4.52 (1.05) | 1 |
| 28 (R) | Treatment for mental illness would | 35 (2.1) | 46 (2.8) | 200 (12.1) | 141 (8.6) | 1,227 (74.4) | 4.50 (0.96) | 2 |

| Item | Description | Strongly Disagree, n (%) | Disagree, n (%) | Neither Agree Nor Disagree, n (%) | Agree, n (%) | Strongly Agree, n (%) | Mean (SD) | Rank |
|---|---|---|---|---|---|---|---|---|
| | not be effective | | | | | | | |

Regarding social distance, a clear gradient of increasing social distance was observed as the level of interpersonal intimacy increased. Moderate unwillingness was reported for proximal contact, including moving next door to someone with mental illness (Item 29: 65.0%), socializing (Item 30: 64.4%), and making friends (Item 31: 64.7%). Rejection was substantially stronger for more integrated social roles, including employing someone with mental illness (Item 35: 82.9%), having someone with mental illness marry into the family (Item 33: 83.7%), and voting for a politician with a history of mental illness (Item 34: 80.5%) (Table 7, Section 2).

Table 7
, Section 2. Distribution of responses to social distance items (N = 1,649)

| Item | Social Distance | Definitely unwilling, n (%) | Probably unwilling, n (%) | Neither unwilling Nor willing, n (%) | Probably willing, n (%) | Definitely willing, n (%) | Mean (SD) | Rank |
|---|---|---|---|---|---|---|---|---|
| 29 | Moving next door to someone with mental illness | 537 (32.6) | 534 (32.4) | 515 (31.2) | 48 (2.9) | 15 (0.9) | 2.07 (0.91) | 2 |
| 30 | Spending an evening socializing with someone with a mental illness | 510 (30.9) | 553 (33.5) | 484 (29.4) | 96 (5.8) | 6 (0.4) | 2.11 (0.93) | 1 |
| 31 | Making friends with someone with a mental illness | 520 (31.5) | 548 (33.2) | 474 (28.7) | 94 (5.7) | 13 (0.8) | 2.11 (0.94) | 1 |
| 32 | Working closely with someone with a mental illness | 563 (34.1) | 552 (33.5) | 435 (26.4) | 86 (5.2) | 13 (0.8) | 2.05 (0.94) | 3 |
| 33 | Have someone with a mental illness marry into family | 927 (56.2) | 454 (27.5) | 244 (14.8) | 13 (0.8) | 11 (0.7) | 1.62 (0.81) | 5 |
| 34 | Voting for a politician with mental illness history | 991 (60.1) | 337 (20.4) | 275 (16.7) | 39 (2.4) | 7 (0.4) | 1.63 (0.87) | 4 |

| Item | Social Distance | Definitely unwilling, n (%) | Probably unwilling, n (%) | Neither unwilling Nor willing, n (%) | Probably willing, n (%) | Definitely willing, n (%) | Mean (SD) | Rank |
|---|---|---|---|---|---|---|---|---|
| 35 | Employing someone with a mental illness | 959 (58.2) | 407 (24.7) | 238 (14.4) | 37 (2.2) | 8 (0.5) | 1.62 (0.85) | 5 |

## Crisis Hotspot Index (CHI)

Using a predefined threshold of > 30% endorsement of the least favorable response options, the Crisis Hotspot Index (CHI) identified several priority areas across the six dimensions of mental health literacy.

The highest CHI values were concentrated in the Social Distance items (Items 29–35), ranging from 64.4% to 83.7%, with peaks for family integration (Item 33: 83.7%) and employment (Item 35: 82.9%).

In the Mental Health Attitudes dimension, notable values were observed for Item 24 (67.9%), Item 23 (61.7%), Item 25 (60.9%), Item 22 (52.0%), Item 21 (47.9%), and Item 20 (38.9%).

Additional hotspots included Item 10 (35.2%), Item 15 (35.1%), Item 12 (28.4%, borderline), and Item 16 (52.8% disagree or neutral).

## Discussion

The present study provides the first item-level analysis of MHL among Iranian teachers using the 35-item Mental Health Literacy Scale (MHLS) across its six dimensions. Based on a large sample of 1,649 educators from Tehran Province, the findings demonstrate that MHL is not a unitary construct but a multidimensional profile characterized by distinct strengths, weaknesses, and internal contradictions. By moving beyond total and subscale scores, this granular approach reveals patterns that are often masked in aggregate analyses. Consequently, it offers a more nuanced understanding of teachers' competencies and gaps, providing actionable, precision-oriented targets for professional development and intervention in educational settings.

# Recognition of Mental Disorders

Teachers demonstrated relatively strong recognition of highly visible disorders such as Major Depressive Disorder (M = 3.28, SD = 0.82) and Bipolar Disorder (M = 3.16, SD = 0.87). In contrast, recognition was lower for Agoraphobia (M = 2.95, SD = 0.72) and Personality Disorders (M = 3.04, SD = 0.86), with 18% to 20% of participants failing to identify Drug Dependence and Personality Disorders as mental health

conditions. This pattern suggests that teachers' diagnostic knowledge is largely shaped by media visibility and public discourse rather than systematic professional training.

These findings are consistent with international studies reporting persistent gaps in teachers' ability to recognize internalizing disorders [25–27]. Within Iran, the results align with general population data [28–29] but indicate slightly better performance among teachers, likely due to their regular contact with students. Nevertheless, recognition remains suboptimal compared to specialized healthcare professionals. Pre-service and in-service training should prioritize vignette-based and case-based modules focusing on under-recognized conditions, particularly internalizing disorders.

# Knowledge of Risk Factors and Causes

A clear asymmetry emerged in teachers' gender-related knowledge. While a large majority (80.3%) correctly identified that women are more likely than men to experience mental illness overall, over one-third (35.2%) endorsed the misconception that men are more likely to experience anxiety disorders. This pattern indicates that although broad awareness of gender differences in mental illness prevalence exists, a nuanced understanding of disorder-specific epidemiological patterns remains limited.

These findings are consistent with international evidence documenting gender-based misconceptions among teachers [25, 27]. Within the Iranian context, the results extend previous population-based studies [28, 29]. Professional development programs should therefore move beyond general prevalence statistics and incorporate gender-sensitive training that addresses the differential manifestations of internalizing versus externalizing disorders across genders.

# Knowledge of Self-Help Strategies

Teachers strongly endorsed improving sleep quality as beneficial for mental health (88.7%, M = 3.20, SD = 0.71). However, a notable minority (28.4%) viewed avoidance of anxiety-provoking situations as a helpful strategy (Item 12, reverse-scored). This misconception is clinically significant, as avoidance is a well-established maintaining factor in anxiety disorders that can prevent fear habituation.

These findings align with previous research showing similar gaps in understanding adaptive versus maladaptive coping strategies among educators and other groups [25, 27, 30, 31]. Professional development programs should therefore explicitly differentiate adaptive self-care (e.g., sleep hygiene) from maladaptive avoidance, incorporating principles of exposure-based approaches and behavioral activation to enable teachers to better support students experiencing anxiety.

# Knowledge of Professional Help Available

Teachers demonstrated relatively strong knowledge of key therapeutic and safety principles. A large majority recognized Cognitive Behavioral Therapy (CBT) as an effective treatment (89.7%, M = 3.10, SD = 0.61) and supported breaching confidentiality in cases of immediate risk of harm (81.8%, M = 3.43, SD = 0.68). However, 35.1% endorsed breaching confidentiality in non-life-threatening situations (Item 15, reverse-scored), indicating gaps in nuanced ethical reasoning.

These findings align with international studies showing similar difficulties in understanding the boundaries of confidentiality among teachers and health trainees [25, 39]. In the Iranian context, the results suggest that occupational proximity to students does not fully resolve uncertainties regarding professional ethics. Professional development programs should therefore incorporate case-based and vignette-based training to help teachers navigate ethical dilemmas, balancing student safety, consent, and trust in non-emergency situations.

# Knowledge of Information Sources and Access

A notable discrepancy emerged between teachers' technical proficiency and their confidence in finding reliable mental health information. While confidence in using technology was high (Item 17: 66.3%, M = 3.70, SD = 1.21), fewer participants expressed confidence in knowing where to seek information (Item 16: 46.8%, M = 3.41, SD = 1.05), with 52.8% either disagreeing or remaining neutral. This gap increases the risk of exposure to misinformation in a saturated digital environment.

These findings align with international studies showing that digital access often outpaces the ability to identify credible sources among educators [25, 27, 32]. Professional development programs should therefore provide curated, context-specific resource directories and training in evaluating the quality and reliability of mental health information.

# Attitudes Influencing Recognition and Help-Seeking

**Mental Health Attitudes** Teachers generally expressed favorable attitudes toward professional help-seeking. A large majority rejected the idea that they would not seek help, believed treatment is effective, and disagreed that seeking help reflects personal weakness. However, stigmatizing beliefs remained common: substantial proportions viewed mental illness as not a real medical condition, a sign of personal weakness, or associated with dangerousness, and many indicated they would conceal their own mental illness.

**Social Distance** Social distance increased markedly with the level of interpersonal intimacy. Teachers showed moderate reluctance toward casual contact (e.g., socializing or living next door) but substantially stronger rejection of more intimate or systemic roles, including employment, family marriage, or voting for a politician with a mental illness history. This gradient is consistent with classic social distance theory [33] and has been observed in other studies in Iran and internationally [25, 28, 34].

Such attitudes may hinder teachers' willingness to engage in early identification and referral of students, thereby limiting the effectiveness of school-based mental health support. Targeted interventions, including contact-based approaches and recovery-oriented narratives, are needed to reduce stigma and social distance among educators.

# Conclusion

This study provides the first item-level analysis of mental health literacy (MHL) among Iranian teachers across all six dimensions of the Mental Health Literacy Scale (MHLS). The findings demonstrate that teachers' MHL is a heterogeneous profile of strengths and weaknesses, often masked by aggregate scores. While notable strengths were observed in recognizing common mental disorders, understanding crisis confidentiality, and using technology for information-seeking, important gaps remain in identifying less visible disorders, nuanced ethical reasoning, and distinguishing adaptive from maladaptive coping strategies.

Crucially, the Crisis Hotspot Index highlighted that the most pressing intervention needs lie in stigmatizing attitudes and social distance, where reluctance to engage in meaningful relationships with individuals with mental illness remains high. These results underscore that knowledge alone is insufficient; improving MHL requires addressing the complex interplay between knowledge, attitudes, and behavioral intentions.

Effective enhancement of teachers' MHL demands multi-level, targeted strategies including disorder-specific training, contact-based stigma reduction, curated resource repositories, case-based ethics education, and supportive policy measures. Investing in teachers' mental health literacy represents a high-leverage opportunity to strengthen early identification and support for student mental health. Educational authorities and teacher training institutions should act on these evidence-based priorities to bridge the gap between knowledge and practice.

# Limitations and Future Directions

Several limitations should be considered when interpreting the findings of this study. First, the cross-sectional design precludes causal inferences and does not allow tracking of changes in mental health literacy over time. Future research should employ longitudinal or quasi-experimental designs to evaluate the stability of identified hotspots and the effectiveness of targeted interventions.

Second, convenience sampling limited to Tehran Province restricts generalizability to other regions of Iran, particularly rural and underserved areas. Third, the highly skewed gender distribution (93.9% female) reflects the demographic reality of the teaching workforce in the sampled schools but may influence patterns of attitudes and stigma. Future studies should strive for more gender-balanced samples to explore potential differences in MHL profiles.

Fourth, self-report measures are susceptible to social desirability bias, especially for stigmatizing attitudes and social distance items. Actual classroom behaviors may therefore differ from reported intentions. Mixed-methods approaches, including vignette-based assessments or observational data, would help address this limitation.

Finally, although the item-level approach and the Crisis Hotspot Index (CHI) provide greater diagnostic precision than traditional aggregate scores, the > 30% threshold was chosen for practical educational planning rather than as a rigorously validated clinical cutoff. Future research should test the

effectiveness of CHI-informed interventions and examine the index's psychometric properties across diverse cultural and educational contexts.

# Abbreviations

CHI
Crisis Hotspot Index
MHL
Mental health literacy
MHLS
Mental Health Literacy Scale
APRP
Average Percentage Response Patterns
HLS19
European Health Literacy Population Survey 2019–2021 framework

# Declarations

### Ethics approval and consent to participate

This study was reviewed and approved by the Research Council of the Tehran Province Education Department, Iran, through the institutional research governance process of the Tehran Province Education Department. The study was conducted in accordance with relevant institutional research guidelines and ethical principles for research involving human participants. Participation was voluntary and anonymous, and all participants provided electronic informed consent prior to completing the questionnaire. Participants were informed about the purpose of the study, the voluntary nature of participation, the confidentiality of their responses, and their right to withdraw from the study without any consequences. The research governance structure of the Ministry of Education differs from the university-based Institutional Review Board (IRB) system; therefore, no separate IRB approval number was available for this educational research.

### Consent for publication

Not applicable. This manuscript does not contain any individual person's data in any form.

### Competing interests

The author declares no competing interests.

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# Author Contribution

F.Z.A.: Conceptualization, Methodology, Data curation, Formal analysis, Investigation, Writing – original draft, Writing – review & editing, Visualization, Project administration. The author read and approved the final manuscript.

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During the preparation of this manuscript, the author utilized a large language model, ChatGPT, to assist with language editing, syntax refinement, and improving the clarity and readability of the text. The tool was strictly confined to stylistic enhancements and was not used for data collection, data analysis, interpretation of results, or the generation of scientific content. All intellectual contributions, methodological decisions, analyses, and conclusions are solely attributable to the author, who has thoroughly verified the final text and assumes full responsibility for the content of the manuscript.

# Data Availability

The datasets generated during the current study are available from the corresponding author on reasonable request.

## References

1. World Health Organization. Mental health [Internet]. Geneva: World Health Organization. 2025 Oct 8 [cited 2026 Feb 7]. Available from: https://www.who.int/health-topics/mental-health
2. World Health Organization Regional Office for Europe. Child and youth mental health in the WHO European Region: status and actions to strengthen quality of care [Internet]. Copenhagen: WHO Regional Office for Europe. 2025 [cited 2026 Feb 7]. Available at https://www.who.int/europe/publications/i/item/WHO-EURO-2025-12824-52598-81473
3. Kieling C, Buchweitz C, Caye A, Silvani J, Ameis SH, Brunoni AR, et al. Worldwide prevalence and disability from mental disorders across childhood and adolescence: evidence from the Global Burden of Disease Study. JAMA Psychiatry. 2024;81(4):347–56. 10.1001/jamapsychiatry.2023.5051.

4. Woolf SH. The youth mental health crisis in the United States: epidemiology, contributors, and potential solutions. Pediatrics. 2025;156(5):e2025070849. 10.1542/peds.2025-070849.
5. Robson EM, Husin HF, Dashti SG, et al. Tracking the course of depressive and anxiety symptoms across adolescence (the CATS study): a population-based cohort study in Australia. Lancet Psychiatry. 2025;12(1):44–55. 10.1016/S2215-0366(24)00361-4.
6. Mohammadi MR, Ahmadi N, Khaleghi A, et al. Prevalence and correlates of psychiatric disorders in a national survey of Iranian children and adolescents. Iran J Psychiatry. 2019;14(1):1–15. 10.18502/ijps.v14i1.418.
7. Ghahramani S, Torkaman Cheh M, Nemati A, et al. Exploring mental health in Iranian children: insights from a cohort dataset using the Strengths and Difficulties Questionnaire. Discov Ment Health. 2025;5(1):86. 10.1007/s44192-025-00228-z.
8. Ahmad A, Salve HR, Nongkynrih B, et al. Mental health literacy among adolescents: evidence from a community-based study in Delhi. Int J Soc Psychiatry. 2022;68(4):791–7. 10.1177/00207640211070009.
9. Wahdi AE, Astrini YP, Setyawan A, et al. Mental health service use among adolescents in three low- and middle-income countries: an analysis of the National Adolescent Mental Health Surveys. Child Adolesc Psychiatry Ment Health. 2025;19(Suppl 1):84. 10.1186/s13034-025-00924-2.
10. Sadler D, McCaughey D, Metcalfe A, Milaney K, Ronksley P. Teaching mental health in the classroom: a mixed-methods implementation evaluation of a mental health literacy program in elementary schools. Ment Health Prev. 2024;36:200377.
11. Jorm AF, Korten AE, Jacomb PA, Christensen H, Rodgers B, Pollitt P. Mental health literacy: a survey of the public's ability to recognize mental disorders and their beliefs about the effectiveness of treatment. Med J Aust. 1997;166(4):182–6.
12. Kutcher S, Wei Y, Coniglio C. Mental health literacy: past, present, and future. Can J Psychiatry. 2016;61(3):154–8. https://doi.org/10.1177/0706743715616609.
13. O'Connor M, Casey L. The Mental Health Literacy Scale (MHLS): a new scale-based measure of mental health literacy. Psychiatry Res. 2015;229(1–2):511–6.
14. Venkataraman S, Patil R, Balasundaram S. The need for assessing mental health literacy among teachers: an overview. Int J Res Med Sci. 2019;7(8):3210–5. 10.18203/2320-6012.ijrms20193422.
15. Gilham C, Hill TG, Coughlan EC, Page D, Vukosa C, Spridgeon A, Wilkie P, Przewieda K. Measurement and design in surveys of teachers' mental health literacy: a scoping review. Health Popul J. 2023;3(2):98–119. 10.15273/hpj.v3i2.11585.
16. Imran N, Ndetei DM, Cordoba Rojas RN, Javed A. High school teachers' awareness of anxiety and depression in adolescents: cross-country analysis. BJPsych Int. 2026;23(1). 10.1192/bji.2025.17.
17. Cowie H, Myers CA. The impact of the COVID-19 pandemic on the mental health and well-being of children and young people. Child Soc. 2021;35(1):62–74.
18. World Bank Group. The COVID-19 pandemic: shocks to education and policy responses. Washington (DC): World Bank Group. 2020. Available from:

https://www.worldbank.org/en/topic/education/publication/the-covid19-pandemic-shocks-to-education-and-policy-responses

19. Ali H, Gul R, Irshad E. Assessment of mental health literacy among school teachers: a descriptive cross-sectional study in Khyber Pakhtunkhwa, Pakistan. CARC Res Soc Sci. 2024;3(3):331–8. 10.58329/criss.v313.15.
20. Bahrami M, Jalali A, Ayati A, Shafiee A, Alaedini F, Saadat S, Masoudkabir F, Shahmansouri N, Noorbala A. Epidemiology of mental health disorders in the citizens of Tehran: a report from Tehran Cohort Study. BMC Psychiatry., Bahrami M, Jalali A, Ayati A, Shafiee A, Alaedini F, Saadat S et al. Epidemiology of mental health disorders in the citizens of Tehran: a report from Tehran Cohort Study. *BMC Psychiatry*. 2023;23:267. doi:10.1186/s12888-023-04773-1.
21. HLS19 Consortium of the WHO Action Network M-POHL. International report on the methodology, results, and recommendations of the European Health Literacy Population Survey 2019–2021 (HLS19) of M-POHL. Vienna: Austrian National Public Health Institute; 2021.
22. Comrey AL, Lee HB. A first course in factor analysis. 2nd ed. Hillsdale (NJ): Lawrence Erlbaum Associates; 1992.
23. Sahraeyan M. Validation of the Iranian version of the Mental Health Literacy Scale (IV-MHLS): A study of convergent validity with the Iranian version of the Urban Health Literacy Scale [master's thesis]. Semnan: Semnan University; 2017.
24. Jafari F, Zarabi A, Hosseiniyan S, Abdollahi A. Psychometric properties of the Persian version of the Mental Health Literacy Scale (MHLS) in Iranian students. J Psychol. 2021;99(25):311–28.
25. Ali H, Gul R, Irshad E. Assessment of mental health literacy among school teachers: a descriptive cross-sectional study in Khyber Pakhtunkhwa, Pakistan. CARC Res Social Sci. 2024;3(3):331–8. https://doi.org/10.58329/criss.v313.15.
26. Johnson CL, Gross MA, Jorm AF, Hart LM. Mental health literacy for supporting children: a systematic review of teacher and parent/carer knowledge and recognition of mental health problems in childhood. Clin Child Fam Psychol Rev. 2023;26(2):569–91. https://doi.org/10.1007/s10567-023-00426-7.
27. Publico MR. Assessing the mental health literacy of secondary school educators. Int J Child Educ. 2020;1(1):24–31. https://doi.org/10.33422/ijce.v1i1.11.
28. Jafari R, Zenoozian S, Hajimiri K. Evaluating mental health literacy among Iranian women: a cross-sectional study. J Hum Environ Health Promotion. 2024;10(2):89–95.
29. Jafari A, Nejatian M, Momeniyan V, Ramezani Barsalani F, Tehrani H. Mental health literacy and quality of life in Iran: a cross-sectional study. BMC Psychiatry. 2021;21(1):499. https://doi.org/10.1186/s12888-021-03507-5.
30. Petersen C. Mental health literacy of undergraduate nursing students at a university in the Western Cape: a mini-thesis submitted in fulfilment of the requirements for the degree of Master of Nursing in the School of Nursing, Faculty of Community and Health Sciences, University of the Western

Cape, South Africa. 2019. https://uwcscholar.uwc.ac.za/items/dba33373-161d-4306-8165-1c01ab4607a5/full

31. Recto P, Champion JD. Assessment of mental health literacy among perinatal Hispanic adolescents. Issues Ment Health Nurs. 2017;38(12):1030–8. http://doi.org/10.1080/01612840.2017.1349224.
32. Snow KSR. Mental health literacy in Polynesian Native Hawaiians and other Pacific Islanders: a pilot cross-sectional study [master's thesis]. Provo (UT): Brigham Young University; 2023. Available from: https://scholarsarchive.byu.edu/etd/10444
33. Link BG, Phelan JC. Conceptualizing stigma. Ann Rev Sociol. 2001;27:363–85. https://doi.org/10.1146/annurev.soc.27.1.363.
34. Raji F, Morsi N, Mahsoon A, Sharif LS. Assessment of health sciences academic advisors' mental health literacy and their experiences with students facing mental health problems. Belitung Nurs J. 2022;8(6):511–20. https://doi.org/10.33546/bnj.2247.