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# The Relationship Between eHealth Literacy and Stress, Anxiety, and Depression Among University Students

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## Abstract

***Background:*** *The growing use of the internet and low eHealth literacy may contribute to increased mental health issues such as stress, anxiety, and depression among university students, who are a key group in society. This study explored the relationship between eHealth literacy and stress, anxiety, and depression among undergraduate students at the University of Social Welfare and Rehabilitation Sciences.*

***Methods:*** *This descriptive correlational study was conducted with the participation of 300 undergraduate students from the University of Social Welfare and Rehabilitation Sciences, Tehran, in 2024, using convenience sampling. The research instrument was an electronic questionnaire consisting of a demographic checklist, the Norman eHealth Literacy Scale, and the Depression, Anxiety, and Stress Scale (DASS). The results were analyzed using SPSS version 25 and statistical tests including Levene's test, independent t-test, ANOVA, Welch's ANOVA, Pearson's correlation coefficient, and multiple regression.*

***Results:*** *The mean and standard deviation of eHealth literacy were 31.15±3.60, indicating a favorable level. The mean and standard deviation of stress, anxiety, and depression among undergraduate students were 13.43±9.01, 13.58±8.83, and 15.15±9.01, respectively, indicating normal, moderate, and moderate levels, respectively. Pearson's correlation coefficient test revealed a significant inverse correlation between eHealth literacy and stress (r=-0.402), anxiety (r=-0.351), and depression (r=-0.353) (P-value<0.001).*

***Conclusions:*** *E-Health literacy is associated with and can predict levels of stress, anxiety, and depression. Therefore, it is necessary and essential to develop educational programs, including media literacy and eHealth literacy training, which can have a positive impact on mental health.*

**Keywords:** Health literacy, Anxiety, Depression, Stress, Mental health, Students.
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## Introduction

Stressors can manifest themselves in different forms during growth and development and at different stages of life[1]. The student period is a transitional phase from adolescence to adulthood, often accompanied by significant life changes that can be stressful[2]. During their studies, students always face complex educational, social, and family issues and factors related to academic conditions, educational environment, graduation, and dormitory environment[3]. Due to the developmental transition and the presence of these stressors, University students are at high risk for mental health problems such as stress, anxiety, and depression[4].

Stress can be defined as a state of worry or mental tension resulting from a difficult situation, which is a natural reaction and everyone experiences stress to some extent, which encourages people to deal with the challenges and threats of life[5]. Evidence indicates that chronic stress is associated with cardiovascular disease, substance use disorders, and mental disorders, ultimately leading to a higher disease burden and increased mortality[6]. On the other hand, stressors may also lead to other physical and psychological changes, including hopelessness, anxiety, and depression[7].

Anxiety can be defined as an emotion that causes a feeling of deep and unknown pain and is manifested by excessive doubt and worry, which can lead to disruption in comfort and interpersonal and social functioning, and make a person's daily life difficult[7, 8].

Depression also negatively affects how a person feels, thinks, and acts, and can lead to a variety of emotional and physical problems and reduce a person's ability to function in society and at home[9]. Studies have reported a high prevalence of stress, anxiety, and depression among students. For instance, research conducted among medical students at Faiyum University in Egypt (2017) found prevalence rates of 62.4%, 64.3%, and 60.8% for stress, anxiety, and depression, respectively[2]. Aghajani et al. (2021) reported prevalence rates of 37.5%, 41.1%, and 30.3% for depression, anxiety, and stress among students, with 10.5%, 10.5%, and 7% of students experiencing severe or very severe symptoms requiring psychiatric follow-up[10, 11]. Depression, anxiety, and stress can negatively impact students' overall health, academic adjustment and progress, quality of life, and readiness to accept professional roles[12].



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In addition to mental health variables, students' general health is also related to e-health literacy, and the higher the e-health literacy, the better the general health status[13].

eHealth literacy refers to the ability to seek, understand, evaluate, and apply health information from electronic sources to address health-related issues[14]. Previous systematic reviews (2017) indicate that online health information-seeking behavior is influenced by individuals' self-efficacy and information technology skills; even those with high health literacy may sometimes doubt the quality of online information. Limited ability to use eHealth services can create barriers to accessing and utilizing online health information. Moreover, eHealth literacy plays a key role in improving access to health services, effective use of online health information, and ultimately better individual and population health outcomes[11]. Studies have shown that students often report difficulties in conducting successful online health-related searches[15, 16], which is notable given the significant increase in internet usage in Iran—rising from 3.8% in 2000 to 69.1% in 2018[17].

Since the student community constitutes a significant portion of the population and is increasing every year, the importance of student health is becoming more and more apparent[18]. In other hand, given the high prevalence of mental health problems such as stress, anxiety, and depression among students[2, 19, 20], the increasing use of the internet, and the status of students' eHealth literacy[11, 15, 21], and since few studies have specifically explored the relationship between eHealth literacy and stress, anxiety, and depression among undergraduate students, this study was designed to investigate the association between eHealth literacy and these mental health issues among undergraduate students at the University of Social Welfare and Rehabilitation Sciences.

## Materials and Methods

This descriptive correlational study was conducted among undergraduate students from various disciplines at the University of Social Welfare and Rehabilitation Sciences in Tehran during the 2023–2024 academic year. Data were collected using convenience sampling. The minimum sample size was calculated as 269 participants based on following formula[22], in which $\alpha=0.05$, $z_{1-\alpha/2}=1.96$ and the percentile of the normal distribution corresponds to a 95% confidence level. The proportion of students with depression, anxiety, and stress ($p$) was considered to be 50% (0.5) in order to achieve the maximum sample size. The margin of error in the estimate ($d$) was set at 0.05. The total number of undergraduate students at the University of Social Welfare and Rehabilitation Sciences ($N$) at the time of the study was 900; finally, considering a 10% dropout rate, the required sample size for the study was estimated to be 300 individuals. The formula used for calculated sample size:

$$n = \frac{N\left(z_{1-\frac{\alpha}{2}}\right)^2 p(1-p)}{(N-1)d^2 + \left(z_{1-\frac{\alpha}{2}}\right)^2 p(1-p)}$$

Data collection was performed using an electronic questionnaire comprising a demographic checklist, the eHealth Literacy Scale, and the Depression, Anxiety, and Stress Scale (DASS-21). The demographic checklist included eight items covering age, gender, marital status, academic year, place of residence, ministry overseeing the field of study, presence of chronic illness, and daily internet usage in hours.

The eHealth Literacy Scale, developed by Norman et al. in 2006, consists of 8 items that assess individuals' perceived ability to search for, evaluate, and identify health information sources on the internet[14]. Items are rated on a 5-point Likert scale ranging from strongly disagree (1) to strongly agree (5), with higher scores indicating greater eHealth literacy. Psychometric evaluation of the scale reported a Cronbach's alpha of 0.88 and factor loadings between 0.6 and 0.84[14]. The scale was translated and psychometrically validated in a student population by Bazm et al. (2016), yielding factor loadings from 0.723 to 0.862, a Cronbach's alpha of 0.88, and a test-retest reliability coefficient of 0.96[23].

The Depression, Anxiety, and Stress Scale (DASS-21), developed by Lovibond and Lovibond in 1995, is a shortened form consisting of 21 items divided into three subscales of 7 items each. Each item is scored on a 4-point scale (0=Did not apply to me at all, 1=Applied to me to some degree, 2=Applied to me a considerable degree, 3=Applied to me very much). The total score for each subscale is obtained by summing the item scores and multiplying by two. Severity levels are classified as follows:

- Stress: 0–14 (normal), 15–18 (mild), 19–25 (moderate), 26–33 (severe), >34 (extremely severe)
- Anxiety: 0–7 (normal), 8–9 (mild), 10–14 (moderate), 15–19 (severe), >20 (extremely severe)
- Depression: 0–9 (normal), 10–13 (mild), 14–20 (moderate), 21–27 (severe), >28 (extremely severe)[24].

The DASS-21 demonstrated a validity coefficient of 0.77 and reliability coefficients (Cronbach's alpha) for depression, anxiety, stress, and the total scale of 0.89, 0.84, 0.82, and 0.83, respectively[24]. The scale was translated and psychometrically validated in student and military populations by Sahebi et al. (2005), reporting internal consistency coefficients of 0.77 (depression), 0.79 (anxiety), and 0.78 (stress)[25]. Shamsaei et al. (2018) also confirmed internal consistency in a student sample with Cronbach's alpha values of 0.85 (stress), 0.86 (anxiety), and 0.83 (depression)[26].

Following approval of the research proposal and ethical clearance from the Ethics Committee of the University of Social Welfare and Rehabilitation Sciences, the electronic questionnaire was distributed online among undergraduate students. The introductory page included the study title and objectives, informed consent information, researcher introductions, and inclusion criteria. Inclusion criteria were: 1) enrollment in an undergraduate program, 2) studying at the University of Social Welfare and Rehabilitation Sciences, 3) absence of psychiatric disorders, and 4) no prior completion of the questionnaire. Participants who confirmed all criteria and provided informed consent could proceed to complete the questionnaire. To minimize response bias, two control questions were embedded. Participation was voluntary, and data collection ceased upon reaching the target sample size. Exclusion criteria included failure to answer more than half of

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the questionnaire items or incorrect responses to control questions.

Data were analyzed using SPSS version 25. Descriptive statistics, including means, standard deviations, frequencies, and percentages, were used to summarize the data. Normality was assessed using skewness and kurtosis indices. Levene's test was applied to assess homogeneity of variances. For comparing mean scores across demographic groups, independent t-tests, ANOVA, and Welch's ANOVA (when homogeneity of variance was violated) were used. Post hoc analyses employed LSD tests (when variances were homogeneous) and Games-Howell tests (when variances were not homogeneous). Pearson's correlation coefficient was used to examine relationships between continuous variables, and multiple regression analysis was conducted to predict stress, anxiety, and depression. A P-value of less than 0.05 was considered statistically significant.

## Results

This study was conducted with the participation of 300 undergraduate students at the University of Social Welfare and Rehabilitation Sciences in Tehran between February and June 2024. The demographic characteristics of the participants are presented in Table 1.

**Table 1. Demographic characteristics of participants**

| Variables | | Frequency (Relative) | Variables | | Frequency (Relative) |
|---|---|---|---|---|---|
| **Place of residence** | Native / With family | 107 (35.7%) | **Age (years)** | 18-20 | 91 (30.3%) |
| | Non-native / Dormitory | 149 (49.7%) | | 21-23 | 175 (57.4%) |
| | Non-native / Private home | 44 (14.6%) | | Over 23 | 34 (11.3%) |
| **Ministry related to field of study** | Ministry of Health | 147 (49%) | **Gender** | Female | 140 (46.7%) |
| | Ministry of Sciences | 153 (51%) | | Male | 160 (53.3%) |
| **Chronic disease (chronic illness)** | Yes | 34 (11.3%) | **Marital status** | Single | 277 (92.3%) |
| | No | 266 (88.7%) | | Married | 23 (7.7%) |
| **Daily internet usage (hours)** | Less than 1 hour | 15 (5%) | **Year of study** | First | 57 (19%) |
| | 1 - 2 hours | 119 (39.7%) | | Second | 131 (43.7%) |
| | 2 - 4 hours | 127 (42.3%) | | Third | 74 (24.7%) |
| | 4 - 6 hours | 22 (7.3%) | | Fourth | 25 (8.3%) |
| | More than 6 hours | 17 (5.7%) | | Fifth | 13 (4.3%) |

The mean and standard deviation of eHealth literacy among the participants was 31.15±3.60 (95% CI=23.95–38.35). The data showed that the mean and standard deviations for stress, anxiety, and depression among undergraduate students were 13.43±9.01, 13.58±8.83, and 15.15±9.01, respectively. The severity of stress, anxiety, and depression was classified as normal, moderate, and moderate, respectively.

Statistical tests indicated a significant difference in mean eHealth literacy based on internet usage (P-value<0.05). The Games-Howell test showed that students who used the internet less than 1 hour had significantly lower scores compared to those using it 1–2 hours (P-value=0.006) and 2–6 hours (P-value=0.020).

Statistical analyses showed a significant differences were found by gender, with female students scoring higher in all dimensions. There were also significant differences by marital status, with single students scoring higher in all dimensions (P-value<0.05) (see Table 2).

According to Table 2, academic year was significantly associated with mean stress, anxiety, and depression. For stress, the LSD test showed that fourth-year students had lower scores compared to second-year (P-value=0.014) and third-year students (P-value=0.004). For anxiety, the Games-Howell test showed fourth-year students had lower scores than second-year (P-value=0.015) and third-year students (P-value=0.043). For depression, the Games-Howell test showed fourth-year students had lower scores than second-year (P-value=0.003) and third-year students (P-value=0.009), and first-year students had lower scores than second-year students (P-value=0.045). There was a significant difference in mean stress by internet usage; the Games-Howell test showed that students using the internet less than 1 hour had lower stress scores than those using 2–4 hours (P-value=0.026) and more than 6 hours (P-value=0.044). There were also significant differences in all dimensions by the presence of chronic illness, with students with chronic illness scoring higher in all dimensions (P-value<0.05). Pearson's correlation coefficient showed significant inverse correlations between eHealth literacy and stress (r=-0.402, p <0.001), anxiety (r=-0.351, P-value<0.001), and depression (r=-0.353, P-value<0.001); indicating that higher eHealth literacy scores are associated with lower stress, anxiety, and depression.

**Table 2. Relationship of demographic variables with ehealth literacy, stress, anxiety, and depression**

| Variables | | Depression | Anxiety | Stress | eHealth Literacy |
|---|---|---|---|---|---|
| **Gender** | Female | 9.70±17.01 | 15.55±9.45 | 15.08±9.22 | 30.93±3.79 |
| | Male | 13.02±7.61 | 11.32±7.48 | 11.54±8.41 | 31.25±4.09 |
| **Statistical test result** | | t=3.978 ***p<0.001 | t=4.310 ***p<0.001 | t=3.479 ***p=0.001 | t=-0.686 ***p=0.493 |
| **Marital status** | Single | 15.48±9.14 | 13.81±9.01 | 13.93±9.08 | 30.98±4.02 |

| | | | | | |
|---|---|---|---|---|---|
| | Married | 11.13±5.74 | 10.78±5.61 | 7.39±5.34 | 32.30±2.34 |
| **Statistical test result** | | t=3.305<br>***p=0.002 | t=2.348<br>***p=0.025 | t=5.276<br>***p<0.001 | t=-1.553<br>***p=0.121 |
| **Year of study** | First | 7.33±12.70 | 7.61±11.26 | 7.43±12.45 | 3.97±31.14 |
| | Second | 9.36±16.25 | 9.23±14.77 | 9.52±13.87 | 4.60±30.72 |
| | Third | 9.69±16.43 | 9.39±14.56 | 9.42±15.10 | 2.74±31.04 |
| | Fourth | 5.41±11.12 | 6.52±9.68 | 6.90±9.04 | 3.32±32.32 |
| | Fifth | 10.01±15.23 | 7.07±13.53 | 9.21±12.15 | 2.75±32.20 |
| **Statistical test result** | | f=5.019<br>*p=0.001 | f=3.967<br>*p=0.006 | f=2.481<br>**p=0.044 | f=1.598<br>*p=0.186 |
| **Daily internet usage** | <1h | 6.18±12.26 | 4.32±11.33 | 4.00±10.00 | 3.86±27.73 |
| | 1-2h | 9.01±14.11 | 8.14±12.58 | 8.75±11.89 | 3.16±32.02 |
| | 2-4h | 8.68±15.82 | 9.06±14.29 | 8.82±14.09 | 3.33±31.38 |
| | 4-6h | 10.20±15.72 | 10.99±13.72 | 9.96±16.09 | 5.25±28.95 |
| | >6h | 10.60±19.17 | 10.88±16.94 | 11.15±18.82 | 6.63±27.94 |
| **Statistical test result** | | f=1.912<br>*p=0.123 | f=1.775<br>*p=0.148 | f=4.495<br>*p=0.003 | f=6.597<br>*p<0.001 |
| **Chronic disease (chronic illness)** | Yes | 9.06±20.29 | 10.43±18.70 | 10.53±19.94 | 4.57±30.88 |
| | No | 8.79±14.49 | 8.41±12.92 | 8.60±12.72 | 3.85±31.10 |
| **Statistical test result** | | t=3.607<br>***p<0.001 | t=3.105<br>***p=0.004 | t=3.353<br>***p=0.002 | t=-0.316<br>***p=0.752 |

***Welch's ANOVA test ** ANOVA test *** Independent t-test**

Multiple regression analysis was used to predict stress, anxiety, and depression. Nominal variables with more than two levels were converted to binary variables. Initially, bivariate linear regression was performed, and variables with a significance level ≤ 0.25 were selected for entry into the multiple regression model. For stress, the variables included gender, marital status, ministry overseeing the field of study, academic year, place of residence, internet usage, presence of chronic illness, and eHealth literacy. For anxiety and depression, the variables included age, gender, marital status, ministry overseeing the field of study, academic year, internet usage, chronic illness, and eHealth literacy. In all three models, variables were normally distributed, variance inflation factors (VIF) were below 10, and tolerance values were above 0.1, indicating minimal multicollinearity among independent variables. The Durbin-Watson statistic ranged from 1.5 to 2.5, indicating independence of residual errors. Normality of residuals was also checked using histograms and P-P plots.

Male gender, being married, higher internet usage, presence of chronic illness, and total eHealth literacy score significantly predicted stress (P-value<0.05). A one-unit increase in eHealth literacy was associated with a 0.879 unit decrease in stress (Table 3).

Male gender, internet usage of 2 to 4 hours, presence of chronic illness, and total eHealth literacy score (P-value<0.01) significantly predicted anxiety, with a one-unit increase in eHealth literacy associated with a 0.772 unit decrease in anxiety (Table 4).

Male gender, internet usage of 2 to 4 hours and more than 6 hours per day, presence of chronic illness, and total eHealth literacy score significantly predicted depression (P-value<0.05), with a one-unit increase in eHealth literacy associated with a 0.799 unit decrease in depression (Table 5).

**Table 3. Multiple linear regression for predicting stress**

| Dependent variable | Predictor variables (reference) –Tested | | b | p | F statistic value | Adjusted R2 & p-value |
|---|---|---|---|---|---|---|
| **Stress** | Gender (Female) – Male | | -3.144 | 0.001 | 8.332 | 0.269<br><0.001 |
| | Marital Status (Single) – Married | | -4.856 | 0.008 | | |
| | Daily internet usage (<1h) | 1-2h | 5.438 | 0.017 | | |
| | | 2-4h | 7.046 | 0.02 | | |
| | | 4-6h | 6.725 | 0.011 | | |
| | | >6h | 8.920 | 0.001 | | |
| | Chronic disease (No) - Yes | | 4.756 | 0.001 | | |
| | eHealth literacy | | -0.879 | <0.001 | | |

**Table 4. Multiple linear regression for predicting anxiety**

| Dependent variable | Predictor variables (reference) –Tested | b | p | F statistic value | Adjusted R2 & p-value |
|---|---|---|---|---|---|
| **Anxiety** | Gender (Female) – Male | -3.691 | 0.001< | 6.494 | 0.216 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Daily internet usage (<1h) | 1-2h | 2.946 | 0.201 | | <0.001 |
| | | 2-4h | 4.526 | 0.045 | | |
| | | 4-6h | 2.064 | 0.445 | | |
| | | >6h | 5.431 | 0.056 | | |
| | Chronic disease (No) - Yes | | 4.411 | 0.003 | | |
| | eHealth literacy | | -0.772 | <0.001 | | |

**Table 5. Multiple linear regression for predicting depression**

| Dependent variable | Predictor variables (reference) –Tested | | b | p | F statistic value | Adjusted R2 & p-value |
|---|---|---|---|---|---|---|
| Depression | Gender (Female) – Male | | -3.460 | <0.001 | 6.706 | 0.223 <0.001 |
| | Daily internet usage (<1h) | 1-2h | 3.835 | 0.101 | | |
| | | 2-4h | 5.313 | 0.020 | | |
| | | 4-6h | 3.284 | 0.231 | | |
| | | >6h | 6.467 | 0.025 | | |
| | Chronic disease (No) - Yes | | 4.374 | 0.003 | | |
| | eHealth literacy | | -0.799 | <0.001 | | |

## Discussion

This study aimed to investigate the relationship between electronic health literacy and stress, anxiety, and depression among undergraduate students at Tehran University of Rehabilitation and Social Health Sciences.

According to the findings, the severity of stress, anxiety, and depression among the students was classified as normal, moderate, and moderate, respectively. Asif et al. reported that more than half of the university students in Sialkot, Pakistan, experienced stress, anxiety, and depression, with a prevalence of moderate depression at 35.8%, severe anxiety at 46.8%, and moderate stress at 35.4%[19]. These results, along with other studies conducted in Egypt and Iran[2, 10, 20], align with the present study in indicating a relatively significant presence of stress, anxiety, and depression among students. Shamsaei et al.[26] found mild average scores of stress, anxiety, and depression among nursing students at Hamadan University of Medical Sciences. Similarly, Ramazani et al.[27] reported that the intensity of stress, anxiety, and depression in their sample was normal, moderate, and mild, respectively, which is consistent with the current study despite minor score differences.

The present study's results correspond with findings by Isazadeh et al. (2019), who assessed electronic health literacy in 305 students at the Army University of Medical Sciences and reported a mean score of 28.15±5.9[13]. Soleimaninejad et al. (2021)[28] also found a mean electronic health literacy score of 27.19±6.99 among individuals over 60 years old. The differences in mean scores between these studies and the current one may be attributed to the temporal gap between the studies, during which electronic health literacy has received increasing media attention, potentially influencing the observed variation.

Kim et al. conducted a study on nursing students at two universities in South Korea, reporting a mean and median electronic health literacy score of 30 and 32, respectively[29], which aligns with the current study's findings. This score differs by more than four points from another South Korean study among adults[30]. The discrepancy may be explained by the participants' academic background, as nursing students might have enhanced abilities to comprehend, evaluate, and utilize electronic health information compared to the general adult population. Another study on South Korean adults reported a mean electronic health literacy score of 25.52[30], which is over five points lower than the current study and other Iranian studies, possibly due to cultural differences and variations in health literacy education. Mengestie et al.[31] reported a mean electronic health literacy score of 28.7 among 801 university students in Ethiopia, differing by more than two points from the present study, which may reflect differences in sample size, cultural, and social contexts.

The current findings revealed a significant inverse correlation between electronic health literacy and stress, anxiety, and depression, indicating that higher electronic health literacy is associated with lower levels of these psychological symptoms. Akinkugbe[32], in a study of 570 members of the general population, similarly found a significant negative association between electronic health literacy and anxiety and depression, consistent with the present results.

Isazadeh reported a significant inverse correlation between overall general health scores and electronic health literacy among students. While no significant association was found between electronic health literacy and anxiety, a significant inverse correlation was observed with the depression subscale[13]. The divergence in anxiety-related findings may be due to differences in participants' psychosocial backgrounds and methodological variations, including measurement tools for electronic health literacy and mental health status. Future research with larger samples and standardized, culturally adapted instruments is recommended.

No significant associations were found between total electronic health literacy scores and demographic variables such as age, gender, marital status, academic year, ministry overseeing the field of study, residence, or chronic disease status, consistent with Isazadeh et al.[13] However, a significant difference in electronic health literacy was observed based on internet usage frequency, aligning with findings by Isazadeh[13] and Soleimaninejad[33]. In contrast, a study in Ethiopia found that female gender was associated with higher electronic health

literacy[31], a finding not replicated in the present study, possibly due to cultural differences between Iran and Ethiopia affecting this relationship.

Significant differences in mean stress, anxiety, and depression scores were observed across academic years, consistent with Ramazani et al.[27]. Additionally, significant gender differences in these psychological variables were found, which contrasts with Ramazani et al.'s findings[27]. Marital status was also significantly related to stress, anxiety, and depression scores, in agreement with Khabaz et al.[34].

Research have demonstrated associations between electronic health literacy and health-promoting behaviors[35] and general health[13] among students. The present study and related research indicate that electronic health literacy significantly correlates with and can predict stress, anxiety, and depression levels. These findings underscore the necessity of monitoring students' mental health and implementing interventions to improve stress, anxiety, and depression. Given the role of electronic health literacy in general and mental health, and considering that higher electronic health literacy can contribute to safeguarding and enhancing students' mental health as valuable national assets, greater attention should be directed toward assessing and promoting this variable in the student population. Accordingly, it is recommended that policymakers and administrators develop programs such as media literacy training and health-promoting behavioral education (e.g., self-awareness techniques, relaxation methods, sleep hygiene) to enhance both electronic health literacy and mental health among students.

Limitations of this study include potential positive self-report bias and response set biases, which, despite control questions, may not have been fully mitigated. Additionally, although the study was conducted at a university with diverse faculties under the supervision of the Ministries of Health and Medical Education and Science, Research, and Technology, the findings should be generalized to the broader university population with caution. Furthermore, the sample comprised only undergraduate students; therefore, caution is advised when generalizing results to students in other academic levels.

Given these limitations, future research should be conducted in diverse settings with larger, more heterogeneous samples to enhance understanding and enrich the scientific literature on electronic health literacy and mental health.

## Ethical Considerations

This research was reviewed and approved by the Research Ethics Committee of the University Social welfare and Rehabilitation Sciences (Ethics ID: IR.USWR.REC.1402.243). All procedures involving human participants were conducted in accordance with the ethical standards of the institutional and/or national research committee, and with the 1964 Helsinki Declaration and its later amendments. Informed consent was obtained from all participants, and principles of voluntary participation, non-maleficence, and confidentiality were strictly upheld throughout the study.

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## Conflict of Interest

The authors declare that they have no conflict of interest.

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