



AWARENESS, PERCEPTION AND ATTITUDE OF UNIVERSITY STUDENTS ABOUT AI DRIVEN TOOLS FOR PROMOTING MENTAL HEALTH

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Abstract:

Mental health contributes to well-being, productivity, and prosperity at both individual and societal levels. The Economic Survey 2024-25 draws a direct connection between mental well-being and India's economic future. Mental health challenges among university students have emerged as one of the most pressing public health concerns of the 21st century. There is a wide disparity between mental health service demand and availability. AI's entry into mental health treatment marks a pivotal moment in the transformation of healthcare delivery. Studies suggest that digital platforms for mental wellness have the potential to address care shortages, shorten wait periods, and provide more affordable treatment options.

This research study investigates the awareness levels, perceptions and attitudes towards AI driven mental health support tools among university students hailing from Mumbai metropolitan and Thane district region. Previous descriptive studies covering this scope in India are insufficient to arrive at generalized findings. This study aims to fill this gap. The research is a descriptive cross sectional study conducted through a self-administered user friendly structured questionnaire circulated to students of various domains and colleges. Awareness was assessed through their familiarity with AI tools and their various functions and offerings. The constructs of perceived benefits, perceived drawbacks and attitude to use AI tools for mental health support were measured through several items. The results revealed that there was no association between gender of students and level of awareness and also their perceptions. However, there is significant correlation between perception and attitude to use AI powered tools for mental health support. These results would give insights to stakeholders such as the higher education institutions, AI product developers and the medical fraternity to promote AI tools as a complementary medium in the mental health care of university students grappling with several stresses.

Key Words: AI tools, Mental health, University Students, remote counselling, Perception, Attitude, Awareness, Chat-bot.

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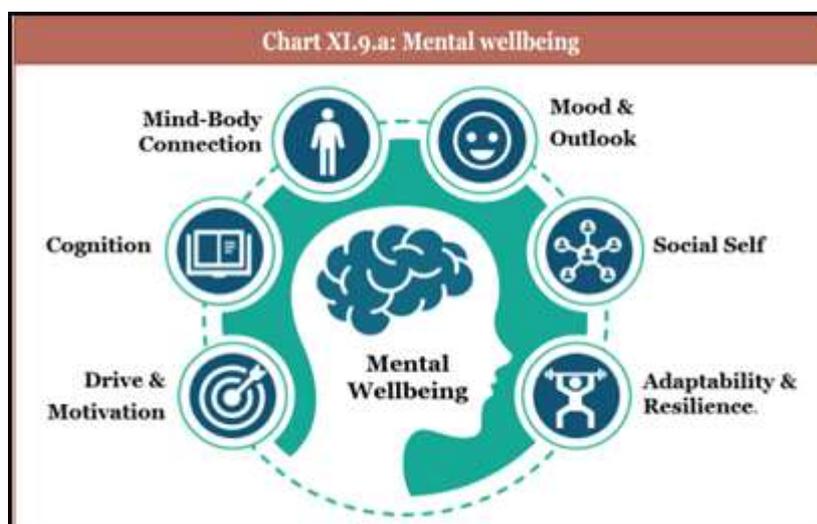
Mental health is recognized not merely as the absence of mental illness, but a dynamic state of well-being that enables individuals to function effectively in their daily lives, learn with enthusiasm and navigate life's challenges. According to the World Health Organization (WHO), "Mental health is a state of well-being in which the individual realizes his or her own

abilities, can cope with the normal stresses of life, can work productively and fruitfully and is able to contribute to his or her community. It is a crucial element of health and well-being that supports both our individual and group capacity to decide, form connections, and influence the world we live in".

Mental health is intricately intertwined with physical health and behavior. Mental health contributes to well-being, productivity, and prosperity at both individual and societal levels. Mental health can be broken down into three major components that influence and interact with each other: *cognitive health*, *emotional health*, and *behavioral health*. Supporting all parts of mental health takes time, attention, and often professional guidance.

- Cognitive health pertains to our mental processes of how we perceive, think, learn, and remember.

- Emotional health involves our ability to recognize, express, manage and regulate our emotions and maintain emotionally healthy relationships with others.
- Behavioral health is a comprehensive term that includes behaviors related to mental health, daily habits, choices that support long-term well-being, practice of self-discipline and impulse control, and the degree to which one feels a sense of belonging and community.



Source: **Ministry of Health & Family Welfare** <https://www.mohfw.gov.in/>

The Economic Survey 2024-25 draws a direct connection between mental well-being and India's economic future, noting that the mental well-being of youth is the most important element of India's demographic dividend and a critical factor for economic growth.

WHO estimates that the burden of mental health problems in India is **2443 disability-adjusted life years (DALYs) per 10000 population**; the age-adjusted suicide rate per 100000 population is **21.1**. The economic loss due to mental health conditions, between **2012-2030**, is estimated at **USD 1.03 trillion**.

Mental health challenges among university students have emerged as one of the most pressing public health

concerns of the 21st century. Across nations, higher education institutions are witnessing unprecedented rates of psychological distress, anxiety, depression, and other mental disorders within their student populations. The transition to university life represents a critical developmental period marked by significant academic pressures, social adjustments, peer pressure, loneliness, stigma, financial stressors, digital content overload, and the navigation of newfound independence. These challenges, compounded by broader societal factors such as economic uncertainty, and the lingering effects of global events like the COVID-19 pandemic and wars have created a perfect storm for mental health vulnerabilities. Poor mental health among students correlates with low levels of concentration, problem-

solving and resilience, academic underperformance, increased dropout rates, adverse career outcomes, substance abuse, and in severe cases, self-harm and suicide.

Student mental health in Indian colleges has reached a tipping point. A landmark study by Cherian et al. (2025) surveyed 8,542 students from 30 universities across nine Indian states and found alarming levels of psychological distress, with the majority exhibiting moderate to high levels of anxiety (69.9%), depression (59.9%), loss of behavioral/emotional control (65.1%), and distress (70.3%). Recent national survey data (Healthy Minds Network, 2025) show that 37% of college students reported moderate-to-severe depressive symptoms in 2025, 32% reported moderate-to-severe anxiety symptoms, and 11% seriously considered suicide in the previous year.

Despite this high prevalence, UNICEF 2021 data shows that less than 10% of youth access mental health services and only 41% believe in seeking support. The National Mental Health Survey 2015-16 estimates India's treatment gap for mental health illnesses at an alarming 70-92 percent, with poor awareness, limited number of specialists, and resource constraints as the primary causes. India has only 0.75 psychiatrists per lakh population, far below the WHO-recommended norm of 3 per lakh. This severe shortage of mental health professionals means for most students, accessibility itself is the barrier, compounded by financial constraints, logistical limitations especially in rural areas, and social stigma. The disparity between mental health service demand and availability can prove critical for students in acute distress and this highlights the pressing need for a multifaceted approach that integrates preventive strategies, early and novel interventions, accessible treatment services, and developing holistic policies.

Artificial intelligence (AI) has proven highly capable across a wide range of fields. AI's entry into mental

health treatment marks a pivotal moment in the transformation of healthcare delivery. Studies suggest that digital platforms for mental wellness encompassing internet-based support systems, virtual counseling, tele-therapy, mobile applications, and AI-powered conversational agents have the potential to address care shortages, shorten wait periods, and provide more affordable treatment options.

AI powered digital mental health solutions offer a range of potential advantages that could transform how people access and receive mental healthcare. These platforms increase accessibility by removing geographic barriers and enabling those with mobility challenges to access support from home. The relative anonymity of digital tools may reduce stigma, making people more comfortable seeking help without the discomfort of face-to-face visits. From a practical standpoint, digital interventions typically cost less than traditional therapy and offer greater convenience, allowing users to engage with resources on their own schedule without commuting. For immediate needs, chat-bots and crisis resources provide instant support during moments of acute distress, while apps help maintain continuity of care between therapy sessions by reinforcing skills, tracking mood patterns, symptoms and behaviors over time providing valuable insights for treatment decisions and offering personalized content that adapts to user responses and progress.

However, it's important to note that while these benefits are significant, there are several legitimate concerns about unintended consequences of AI in mental healthcare that warrant careful consideration. AI systems might misdiagnose conditions, misinterpret symptoms, or fail to recognize critical warning signs such as suicidal ideation, potentially providing generic advice when personalized human judgment is essential for someone in crisis. Over-reliance on these digital tools poses another risk, as individuals might use AI as

a substitute for professional help when they actually need more intensive human intervention with empathy, potentially allowing their condition to worsen over time. Privacy concerns are particularly acute given the sensitive nature of mental health data. Algorithmic bias presents another challenge, as AI systems trained on non-representative data might provide less effective care for certain demographic groups.

Related Work:

Zhang & Wang (2024) explored the potential of AI chatbots and therapist models replacing the human psychotherapist. The study highlights the strengths of AI, such as being more accessible and cost-effective. Furthermore, the study discussed the role of AI in early mental illness detection. The paper emphasizes that AI shows short-term benefits, whereas long-term consequences remain blurred. The authors suggested that AI should complement the psychotherapist rather than replace them and should be under constant human supervision when delivering medical insights.

Ly et al. (2017) investigated the view of students on AI therapy in schools, determining that while adolescents appreciate such advantages as anonymity and permanent availability of an AI chatbot, they do not believe that AI could serve reliably for their complex emotional needs.

Kauttonen et al. (2025) carried out a quantitative research on the challenges of trust and acceptance during the integration of Artificial Intelligence (AI) applications in healthcare. The results of the study showed that personal attitudes towards technology and technology experience, as well as the presence of various personality variables, influence the willingness to trust healthcare-related applications based on Artificial Intelligence.

Alshammari (2025) assessed the efficacy of a self-help ChatGPT tool in improving emotional and psychological well-being in students at Saudi Arabian universities. The mixed-methods experiment assessed

the usability, empathy, and emotional support provided by the chatbot tool. The results showed that students felt comfortable, satisfied, and effective in dealing with stress, anxiety, and other emotional issues using ChatGPT. Students praised its usability, anonymity, and always-open feature. It also showed some drawbacks. Students emphasized the introduction of AI in conjunction with human support clearly showing the still-prevailing need for "human/AI hybrid models."

Varghese et al. (2024) analyzed the acceptance and views on AI-powered interventions for mental wellness through a web-based study conducted on 466 participants across India, concentrating on comparing acceptance and views on AI-powered interventions with traditional human-based interventions for mental wellness. The study revealed that even though participants revealed low knowledge on AI-powered interventions for mental wellness, they exhibited acceptance on grounds like increased accessibility, cost-effectiveness, constant accessibility, and decreased stigma compared to human-based interventions which face constant stigma. Level of trust varied considerably across interventions; participants revealed significant trust in human-based interventions compared to AI-powered interventions, even though they demonstrated moderate trust toward AI-powered interventions. Level of acceptance revealed direct correlation with perceived efficacy and knowledge on AI-powered interventions.

Olawade et al. (2024) described the features of popular AI tools in the mental health arena. Woebot, Wysa are useful chatbots. Talkspace and BetterHelp are online therapy platforms. Popular apps are Moodfit, Happify, Headspace, Calm, Shine, DBT Coach, CBT Companion, MindShift CBT, MindShift, PTSD Coach, and SuperBetter. Most used smart mental health tools in the market are Kintsugi, IBM's Watson Health, Cerebral, Mindstrong Health and Pear Therapeutics' reSET.

Need for the study: As the AI boom unfolds globally, it is imperative to assess both the strides made by AI in the mental health field and to anticipate the challenges and opportunities that lie ahead. Given that students pursuing higher education face significant mental health challenges who more often than not underutilize traditional mental health services, it is valuable and timely to examine their awareness of, perceptions, and attitudes towards AI-driven mental health tools. Further this demographic already uses digital tools extensively in their daily lives, making them early adopters who could benefit from and shape the future of AI mental health interventions. Understanding students' awareness, examining their perceptions and attitudes toward adoption reveal barriers and facilitators that could inform how these technologies are designed, marketed, and integrated into campus mental health.

Research Gap: The review of literature revealed that quantitative studies on the current topic in the Indian higher education institutions contexts are wanting. The current study is therefore essential to draw insights with the ultimate aim of promoting wellbeing of next generation learners and leaders.

Objectives of the study:

The present study sets out to examine:

- (1) The level of awareness of AI powered digital mental health solutions among University students.
- (2) their perceptions of these digital mental health solutions.
- (3) students' attitude to use these digital mental health solutions.
- (4) the inter-relationship between perception and attitude of students.

Methodology: A cross sectional quantitative approach was employed to elicit views of University students from the faculty of Commerce, Management, Arts, Science and Technology to ensure diversified

representation. A self-administered structured questionnaire consisting of 47 close-ended questions was designed by adapting survey items from a range of instruments used in similar studies. More specifically, awareness questions were formulated by reviewing the features of extant AI tools in this domain. Perception based questions were broadly categorized into two sections wherein the former enlisted the benefits of AI tools and the latter enlisted the drawbacks of AI tools which were gleaned from the literature. The technology acceptance model (TAM) was also considered to formulate questions.

Questions were dichotomous, multiple choice as well as Likert type. The online survey contained five parts: Demographic and personal data (8 items), Awareness about AI (4 items), Awareness about AI powered digital mental health solutions (5 items), Perceptions towards the benefits (12 items) and drawbacks (9 items) of AI powered digital mental health solutions and finally Attitude to use AI powered digital mental health solutions (9 items). Questions in parts 3, 4 and 5 were considered response variables, while questions in parts 1 and 2 were considered predictor variables.

Data was collected in the first half of January 2026. Convenience sampling was adopted and the sample included 140 respondents. University students who agreed to participate in the study were asked to complete the Google Form (Google LLC/Alphabet Inc.), which was sent through the researchers' Whatsapp groups to various colleges in Mumbai and Thane districts. Student respondents typically took 10 to 15 minutes to complete the survey.

Pearson's chi-square test examined the association between gender and AI awareness. T test was performed between gender and AI perception. Multiple correlation was used on perception and attitude to use scores. SPSS (V.21) was used for the analysis.

Data analysis and Results: Sample characteristics

T1 Gender-wise Distribution: The respondents are



nearly balanced, with 72 males and 68 females, ensuring the study reflects both genders fairly.

- T2** Stream of Study: Most respondents are from Commerce and Management (104), followed by Science and Technology (23) and Arts (13), indicating a dominance of Commerce and Management perspectives.
- T3** Age-wise Distribution: The majority are aged 18–20 years (48 aged 18, 41 aged 19, 37 aged 20), with fewer aged 21–22 (7 each), showing the study mainly represents younger undergraduate students
- T4** a large majority reported access of internet at home (91.4%) indicating that infrastructure is bolstering online AI based tools where as a small segment still might face barrier accessing AI tools due to inaccessibility of internet
- T5** substantial amount of respondents reported that they were fairly comfortable (37.9%) and very comfortable (37.9%) showcasing high digital literacy participants whereas, a small segment of minority reported un-comfort regarding digital technologies. This indicates high potentiality of high adaptability of tech driven innovations
- T6** a substantial majority reported fair to good mental health status indicating good mixture of (i) good mental health (ii) stigma (iii) lack of awareness regarding mental health issues. While a small segment (6.4%) reported poor mental conditions

indicating room for mental health support initiatives

- T7** substantial majority has used AI tools prior indicating that they are not only familiar but have practiced usage of AI
- T8** majority of respondents (63.6%) have used mental health support services at least once while a significant minority (36.4%) have never used mental health support services indicating stigma regarding mental health issues in society. Indicating high potential for AI based tools due to feature of anonymity.
- T9** respondents showcased varied online engagement with mental health information. While 35.7% browse sometimes and 17.1% often, a smaller group (8.6%) never and 27.9% rarely search for mental health related information.
- T10** almost all respondents were aware about AI showcasing strong room for AI based in substantial majority has used AI tools prior indicating that they are not only familiar but have practiced usage of AI
- T11** a significant majority has received formal education about AI [(63.6%) online mode, (11.4%) offline mode] whereas a quarter (25%) admitted that they've never been educated about AI formally indicating strong room for both; innovations based on AI, education program regarding AI.

Multiple Correlation test

		Attitude	Benefits	Drawback
Attitude	Pearson Correlation	1	.640**	.585**
	Sig. (2-tailed)		.000	.000
	N	140	140	140
Benefits	Pearson Correlation	.640**	1	.615**
	Sig. (2-tailed)	.000		.000
	N	140	140	140
Drawback	Pearson Correlation	.585**	.615**	1
	Sig. (2-tailed)	.000	.000	
	N	140	140	140

** . Correlation is significant at the 0.01 level (2-tailed).

Source: Primary data analysis

As it is evident from the above table, the correlation of all 3 variables are statistically significant.

Limitations of the Study:

The findings are limited to college students in a limited geographical area with small sample size and may not be generalized to other regions or educational contexts. The study focuses only on students and does not include other stakeholders such as counsellors, educators or app developers. As a qualitative study the results rely on participants' subjective experiences and the researcher's interpretation, which may involve potential bias.

Conclusion:

This study aimed to understand the willingness to use and trust AI by measuring overall attitudes to various factors in AI in health care in general, as well as dimensions of use case scenarios. The effect of context on individuals' willingness to trust and accept AI in health care proved nuanced. Instead of a use case, the opinion was mainly driven by the individual's attitude toward AI and use of technology. This carries through to the subquestion of the relationship between perceived risk and the AI application.

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