

AI-BASED MENTAL HEALTH SUPPORT AND PSYCHOLOGICAL WELL-BEING AMONG UNIVERSITY STUDENTS IN LAHORE, PAKISTAN

Dur e Zahra Ali^{*1}, Amber Noor², Eman Safeer³, Saba Aslam⁴, Ammara Ghulam Muhammad⁵

^{*1}Master of Science in Clinical Psychology, School of Behavioral Sciences, The University of Lahore

²Mphil in Clinical Psychology, Department of Psychology, Riphah International University, Faisalabad Campus

³BS Clinical Psychology, Department of Psychology, Foundation University Rawalpindi

⁴M.Sc Data Science with Advanced Research, University of Hertfordshire, England

⁵Masters in Education, University of the West of Scotland, London campus

¹dure2001zahra@gmail.com, ²amberhayyat6@gmail.com, ³emansafeer9@gmail.com,

⁴sabaaslammm@gmail.com, ⁵ammaraghulam3@gmail.com

DOI: <https://doi.org/10.5281/zenodo.22690194>

Keywords

artificial intelligence, mental health chatbots, university students, emotional dependency, trust in AI, help-seeking, depression, anxiety, Pakistan, clinical psychology

Article History

Received: 30 January 2026

Accepted: 15 March 2026

Published: 31 March 2026

Copyright @Author

Corresponding Author: *

Dur e Zahra Ali

Abstract

Artificial Intelligence (AI), a rapidly adopted technology, has made conversational systems increasingly accessible as sources of emotional and mental health support for university students. The current study aims to explore the associations between trust in AI, emotional dependence, professional help-seeking intentions, depression, anxiety, loneliness, and psychological wellbeing among college students in Lahore, Pakistan. Using a synthetic dataset of 450 artificial intelligence users aged 18–29 years, a quantitative cross-sectional correlational design was employed. Descriptive statistics, reliability testing, Pearson correlations, t-tests, ANOVA, multiple regression, and bootstrap mediation analysis were conducted. The findings showed that emotional dependence was positively correlated with trust in AI, while emotional dependence was negatively correlated with professional help-seeking intentions and positively correlated with depression, anxiety, and loneliness. Trust in AI was indirectly significantly associated with help-seeking intentions through emotional dependence. The results indicate that AI should augment rather than replace professional mental health care services.

1. INTRODUCTION

In recent years, Artificial Intelligence (AI) has progressed from niche computational technology to a common communication tool. Generative AI systems can offer emotional reassurance, problem solving, informal psychological support, psychoeducation, and conversational responses. This convenience, privacy, and easy availability has led to an increased interest in mental health applications, especially among university students

who may find it difficult to access traditional psychological services.

There is some recent evidence that AI chatbots can have a positive impact on some mental health outcomes. Li et al found 35 studies to be eligible, with 15 being RCTs, with results indicating that AI-based conversational agents can have significant effects on depression and psychological distress. In a similar way, a recent systematic review and meta-analysis of 31 RCTs with 29,637 participants revealed small-to-

moderate effects from AI chatbots on mental distress, depression, anxiety and stress in adolescents and young adults. But, as is often the case, evidence of effectiveness doesn't always translate to psychological safety. Findings from a scoping review of automated conversational agents with youth revealed that these systems were acceptable and engaging, though clinical effectiveness was inconsistent with nearly half of the studies reviewed reporting no significant effects on mental health emotional outcomes.

The psychological connection between AI and users needs to be taken into consideration beyond symptom reduction. Trust, empathy, cooperation, and collaborative working are components of traditional psychotherapy. A new body of research is beginning to emerge that indicates that therapeutic alliance can also be formed in digital and AI-assisted settings. Empathy, trust, engagement, and collaboration have been suggested as possible factors to consider for the digital therapeutic alliance, and there are yet unaddressed ethical and long-term issues to consider.

Trust is especially crucial as users might judge AI systems by their reliability, competence, predictability, and dependability. Trust could be more critical in mental health settings as users might share highly personal information with systems that they think will be nonjudgmental and always available. This relationship could be further enhanced by anthropomorphic design. Studies on the use of chatbots for mental health counseling have demonstrated that some human-like qualities of chatbots may enhance the counseling experiences and re-use intentions, in part because of the perceived social rapport.

A critical clinical question arises: At what point does beneficial interaction turn into emotional dependency? The emotional reliance in this study is defined as growing reliance on AI to provide emotional support, comfort, coping, or emotional regulation. It doesn't automatically mean it's an addiction if people use AI occasionally to get stress-management tips. However, using AI occasionally for stress-management advice does not automatically mean it's an addiction. However, it becomes a cause for

concern when students regularly rely on AI rather than on their friends, family members, counsellors or psychologists. Recent studies of people who use ChatGPT regularly for emotional and mental health care identified some applications such as psychoeducation, information about treatment, companionship, relationship advice, wellbeing, and decision-making, as well as issues related to "shallow" emotional engagement and the lack of professional expertise. Mental health experts have also voiced concerns about emotional reliance, self-reliance, manipulation, and the possible detrimental effects of AI-assisted mental health guidance.

Students in university represent an important population given that there are academic, interpersonal, economic, and developmental challenges in the emerging adulthood. Psychological support might be needed more when experiencing anxiety, depression, loneliness, stresses of schoolwork, relationship problems, and concerns about work. While this is the case, professional services are still not easily accessible due to cost, waiting time, stigma, geographical barriers and confidentiality issues. Therefore, help-seeking is an important clinical outcome.

The recognition of psychological difficulties, concerns, and identification of helpful resources are components of help-seeking in young people, as is their becoming willing to seek help. AI offers another type of support in between informal social support and formal professional care. Accessibility and apparent privacy may foster disclosure, but high trust and emotional attachment may be associated with lower intentions to seek professional psychological help. The WHO calls for AI use in healthcare to respect autonomy, safety, transparency, accountability, inclusiveness and equity. It also identifies issues related to the portability of AI systems that have been created largely from high-income country data to low and middle income countries. Thus, the main research question is not so much about the extent to which AI can alleviate psychological symptoms, but about the relationship between trust and emotional dependency of AI and mental health outcomes

and professional help-seeking by university students in Pakistan.

Theoretical Framework

The present study combines the principles of digital mental health, interpersonal trust, therapeutic alliance and help-seeking theory.

The proposed model consists of four central stages:

Trust in AI → Emotional Dependency → Professional Help-Seeking → Mental Health Outcomes

Trust is the user's psychological assurance and confidence in AI-powered support. Increased trust can result in re-use and increased disclosures. Repeated emotionally meaningful interaction may contribute to emotional reliance. This does not mean that trust is a cause of pathological dependence; trust is understood as one way of being psychologically reliant.

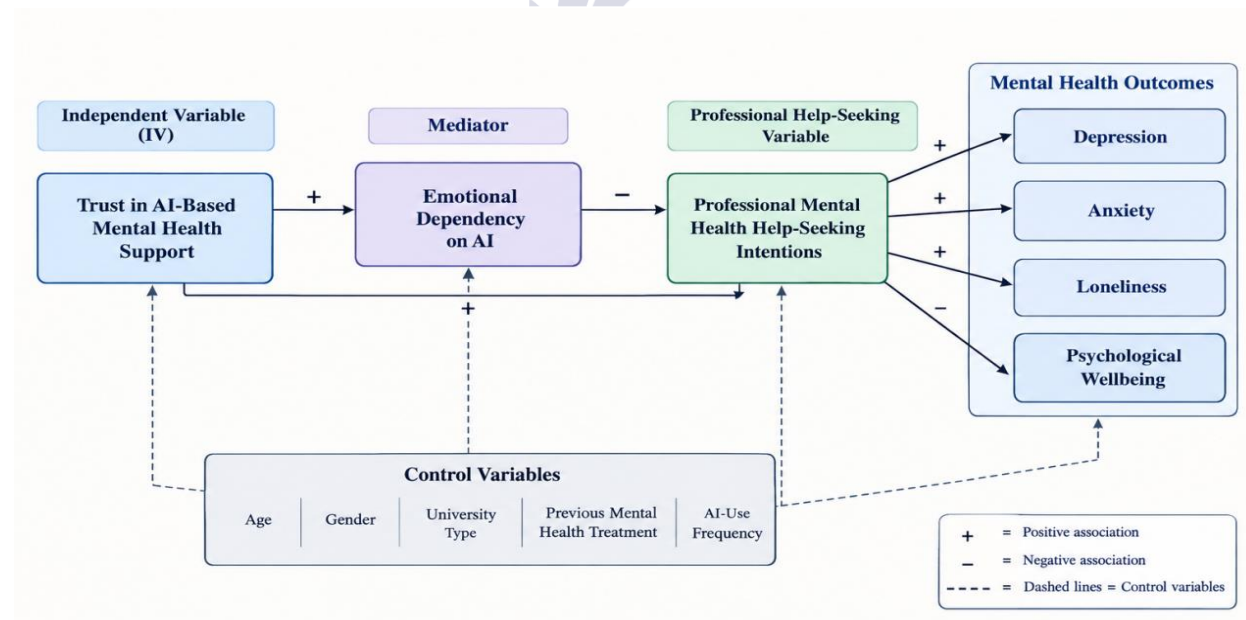
Emotional dependency may then impact on help-seeking behaviour. Once AI is seen as a suitable alternative to human assistance, the demand for

professional assistance might decline. Last but not least, help-seeking behavior might be connected to mental health outcomes as professional psychological services can deliver mental health assessment, diagnosis, evidence-based intervention, risk management, and personalized care, while the general-purpose AI systems can fail to provide these services.

The model thus conceptualizes AI not solely as a technical solution but as a component of a psychological system.

Conceptual Framework

The conceptual model of the present research indicates that trust in AI for mental healthcare is connected to emotional dependency, which can then be linked to intentions to seek mental health assistance from a professional. The intermediary psychological link between users' trust in AI and their intentions to seek help is emotional dependency.



Research Gap

Prior studies have demonstrated that AI conversational agents can positively affect various psychological outcomes. However, four important gaps remain.

Firstly, a large share of the empirical literature comes from high-income countries. Data on undergraduate population in Pakistan is scanty.

Second, previous research often focuses on symptom reduction while comparatively limited

research has been conducted on the formation of strong emotional dependence on AI.

Third, trust is frequently seen as a technology-acceptance or an implementation variable, and not a meaningful psychological process.

Fourth, there is limited research that examines the connection between dependency on AI and other forms of assistance, such as professional help-seeking.

The present study aims to fill these gaps by attempting to combine the concepts of AI trust, emotional dependency, help-seeking, depression, anxiety, loneliness and wellbeing in one clinical psychology model.

Objectives

The study has the following objectives:

To investigate the correlation between trust in Mental health support through AI and emotional dependency among university undergraduate students at Lahore, Pakistan.

To analyze the connection between emotional dependence on AI and intentions to seek professional mental health support

To assess the relationship between emotional dependency and mental health outcomes, such as depression and anxiety, loneliness, and psychological wellbeing, and if emotional dependency is a mediator between trust in AI and professional help-seeking.

Research Design

The study uses a quantitative, cross sectional, correlational research design to analyse the relationships between the use of AI, psychological perceptions, help-seeking intentions, and mental health indicators. The associations described in this study cannot be used as evidence for temporal or causal relationships because the study is cross-sectional.

Participants

The dataset is comprised of 450 undergraduate students (ages 18-29) from public and private universities in Lahore, Pakistan, who participated in the demonstration. Participants should be undergraduate students aged 18 years and older and be studying at a university in Lahore, have

experience using an AI conversational system in emotional or mental health-related support and be able to understand English well enough to answer the questionnaires and give informed consent. The following students were excluded: those who were not undergraduate students, 18 years of age or younger, didn't have any relevant experience using AI, didn't give consent, or substantially incomplete.

Measures

Demographic data comprised age, gender, type of university, academic year, frequency of using AI, and previous mental health treatment. AI trust was measured by eight items on a 5-point Likert scale (1 = "Strongly disagree" to 5 = "Strongly agree") drawn from existing frameworks on trust in automation, ranging from "Strongly disagree" to "Strongly agree" with higher scores representing higher trust in AI psychological support. Emotional dependency with AI was measured using eight items on a 1-5 Likert scale that included items on reliance on AI for emotional reassurance, companionship, coping, and psychological regulation. This is a new construct so future empirical research should validate the construct through expert review, pilot testing and factor analysis.

Depressive symptoms were evaluated with the Patient Health Questionnaire-9 (PHQ-9) which has a range of 0-27 and anxiety symptoms were measured with the Generalized Anxiety Disorder-7 (GAD-7) which has a range of 0-21. The UCLA Loneliness Scale, Version 3, was used to assess levels of loneliness, with higher scores reflecting higher levels of loneliness. The General Help-Seeking Questionnaire (GHSQ), which asks about intentions to seek professional psychological support was used to assess help-seeking intentions. In the synthetic data, psychological wellbeing was captured using the synthetic wellbeing score, which has a higher score for better psychological wellbeing. A validated instrument, like the WHO-5 Well-Being Index can be employed in a future empirical study.

Statistical Analysis

Descriptive and inferential statistical procedures are used for data analysis.

The demographic characteristics and the types of use of AI are summarized using frequencies, percentages, means and standard deviations first. Secondly, a test of internal consistency is performed with Cronbach's alpha. Third, Pearson product-moment correlations are performed to assess the relationships between trust, emotional dependency, help-seeking, depression, anxiety, loneliness and wellbeing. Fourth, independent-samples t tests look for gender differences. Fifth, one-way ANOVA looks at variations in emotional dependency among AI-use-frequency groups. Sixth, multiple regression

models are used to investigate predictors of emotional dependency, seeking help, depression, anxiety and wellbeing. Lastly, bootstrap mediation analysis with 3,000 resamples was conducted to determine whether the emotional dependency statistically mediated the effect of trust in AI on professional help-seeking.

Two-tailed p-values of less than .05 are used.

Results

Participant Characteristics

There are 450 students in the synthetic sample. The mean participant age is 23.91 years (SD = 3.45). About 52% of the sample is female and about 44% goes to a private university.

Table 1 Demographic Characteristics of the Sample

Variable	Category	n	%
Gender	Male	217	48.2
	Female	233	51.8
University type	Public	251	55.8
	Private	199	44.2
Academic year	1st	122	27.1
	2nd	122	27.1
	3rd	113	25.1
	4th	93	20.7
Previous treatment	Yes	54	12.0
	No	396	88.0

Mean age: 23.91 years; **SD:** 3.45.

AI-Use Frequency

AI use is categorized into four groups:

1. occasional
2. moderate

3. frequent

4. very frequent

The largest group reports moderate AI use, while the smallest group represents very frequent users.

Table 2 AI Mental-Health Support Use

AI-use frequency	n	%
Occasional	118	26.2
Moderate	151	33.6
Frequent	128	28.4
Very frequent	53	11.8
Total	450	100.0

Descriptive Statistics and Reliability

The trust scale demonstrates good internal consistency ($\alpha = .88$), while the emotional dependency scale demonstrates good internal

consistency ($\alpha = .87$). The GHSQ professional-help component demonstrates acceptable internal consistency ($\alpha = .71$).

Table 3 Descriptive Statistics and Internal Consistency

Variable	Items	Mean	SD	Minimum	Maximum	Cronbach's α
Trust in AI	8	2.99	0.67	1.00	5.00	.88
Emotional dependency	8	2.98	0.74	1.00	5.00	.87
Professional help-seeking	3	4.05	1.21	1.00	7.00	.71
Depression (PHQ-9)	9	9.06	4.07	0.00	21.00	—
Anxiety (GAD-7)	7	8.07	4.13	0.00	21.00	—
Loneliness	20	38.04	6.87	20.00	61.91	—
Wellbeing	—	57.98	11.10	25.03	95.34	—

Correlation Analysis

Pearson correlation analysis demonstrates that trust in AI is positively related to emotional dependency.

Emotional dependency demonstrates significant negative relationships with professional help-seeking and wellbeing and significant positive relationships with depression, anxiety, and loneliness.

Table 4 Pearson Correlations Among Major Study Variables

Variable	1	2	3	4	5	6	7
1. Trust in AI	1						
2. Emotional dependency	.37***	1					
3. Help-seeking	-.23***	-.50***	1				
4. Depression	.01	.54***	-.39***	1			
5. Anxiety	.01	.48***	-.35***	.69***	1		
6. Loneliness	-.24***	.33***	-.26***	.56***	.52***	1	
7. Wellbeing	.02	-.55***	.40***	-.72***	-.67***	-.58***	1

Note. ** $p < .001$.

The strongest relationship involving emotional dependency is observed with depressive symptoms ($r = .54$), followed by psychological

wellbeing ($r = -.55$), professional help-seeking ($r = -.50$), and anxiety ($r = .48$).

Gender Differences

Independent-samples t tests indicate no statistically significant gender differences in trust, emotional dependency, help-seeking, depression,

loneliness, or wellbeing within the synthetic dataset.

Anxiety demonstrates a nonsignificant trend toward higher scores among male participants.

Table 5 Gender Differences in Major Study Variables

Variable	Male M (SD)	Female M (SD)	t	p
Trust in AI	3.00 (.67)	2.98 (.67)	-0.26	.796
Emotional dependency	2.98 (.72)	2.98 (.75)	0.03	.977
Help-seeking	4.02 (1.19)	4.07 (1.23)	0.46	.646
Depression	9.21 (4.10)	8.91 (4.05)	-0.71	.475
Anxiety	8.38 (4.13)	7.79 (4.11)	-1.52	.130
Loneliness	38.25 (6.91)	37.85 (6.83)	-0.61	.542
Wellbeing	57.25 (10.99)	58.65 (11.18)	1.34	.182

AI-Use Frequency and Emotional Dependency

A one-way ANOVA demonstrates a statistically significant difference in emotional dependency across AI-use-frequency groups, $F(3, 446) = 3.89$, $p = .009$.

Mean emotional dependency is lowest among occasional users and highest among very frequent users.

Table 6 Emotional Dependency by AI-Use Frequency

AI-use frequency	n	Mean dependency	SD	AI-use frequency
Occasional	118	2.85	0.71	Occasional
Moderate	151	2.98	0.77	Moderate
Frequent	128	2.98	0.72	Frequent
Very frequent	53	3.27	0.76	Very frequent

The pattern indicates that greater frequency of AI use corresponds to greater emotional dependency in the synthetic dataset.

However, frequency alone should not be interpreted as evidence of psychological dependence because frequency may reflect legitimate informational or coping needs.

Regression Predicting Emotional Dependency

A multiple regression model examines whether trust in AI predicts emotional dependency after controlling for age, gender, university type, previous treatment, and AI-use frequency.

The overall model explains approximately 16.5% of the variance in emotional dependency.

Trust in AI emerges as the strongest predictor.

Table 7 Multiple Regression Predicting Emotional Dependency

Predictor	B	SE	β	p
Trust in AI	0.357	0.047	.369	<.001
AI-use frequency	0.114	0.034	.149	.001
Age	-0.003	0.011	-.013	.771
Female	0.012	0.065	.008	.854
Private university	-0.080	0.065	-.053	.223
Previous	0.057	0.098	.025	.565

treatment				
-----------	--	--	--	--

Model: $R^2 = .165$; adjusted $R^2 = .154$.

Trust in AI significantly predicts emotional dependency, supporting H1.

Regression Predicting Professional Help-Seeking

The second regression model predicts professional help-seeking from trust, emotional dependency, AI-use frequency, and demographic covariates.

The model explains 26.3% of the variance.

Emotional dependency is the dominant predictor and is negatively associated with professional help-seeking.

Table 8 Multiple Regression Predicting Professional Help-Seeking

Predictor	B	SE	β	<i>p</i>
Trust in AI	−0.062	0.063	−.044	.323
Emotional dependency	−0.725	0.075	−.501	<.001
AI-use frequency	0.064	0.046	.058	.163
Age	−0.013	0.014	−.041	.323
Female	0.051	0.089	.024	.564
Private university	−0.089	0.090	−.041	.321
Previous treatment	0.072	0.135	.022	.590

Model: $R^2 = .263$; adjusted $R^2 = .251$.

The findings support H3.

Notably, trust does not retain an independent statistically significant association with help-seeking after emotional dependency is entered into the model. This pattern is theoretically important because it suggests that the

psychological reliance pathway may be more relevant than trust alone.

Regression Predicting Depression

Emotional dependency significantly predicts depressive symptoms after adjustment for help-seeking and demographic factors.

Table 9 Multiple Regression Predicting Depressive Symptoms

Predictor	B	SE	β	<i>p</i>
Emotional dependency	2.757	0.365	.459	<.001
Help-seeking	−0.638	0.193	−.154	.001
AI-use frequency	0.191	0.184	.042	.299
Age	0.023	0.052	.018	.652
Female	−0.315	0.356	−.035	.377
Private university	0.472	0.361	.052	.191
Previous treatment	0.173	0.535	.013	.746

Model: $R^2 = .314$; adjusted $R^2 = .304$.

Emotional dependency represents the strongest predictor of depressive symptoms.

Regression Predicting Anxiety

Emotional dependency also demonstrates a significant positive association with anxiety symptoms.

Table 10 Multiple Regression Predicting Anxiety Symptoms

Predictor	B	SE	β	<i>p</i>
Emotional dependency	2.266	0.366	.411	<.001
Help-seeking	−0.544	0.183	−.143	.003
AI-use frequency	−0.134	0.177	−.032	.448
Age	−0.019	0.050	−.016	.703
Female	−0.554	0.357	−.067	.105
Private university	−0.140	0.354	−.017	.686
Previous treatment	−0.162	0.525	−.013	.751

Model: $R^2 = .251$; adjusted $R^2 = .239$.

These findings support H5.

Regression Predicting Psychological Wellbeing

Emotional dependency is negatively associated with psychological wellbeing.

Table 11 Multiple Regression Predicting Psychological Wellbeing

Predictor	B	SE	β	<i>p</i>
Emotional dependency	−7.055	0.976	−.475	<.001
Help-seeking	1.679	0.464	.164	<.001
AI-use frequency	0.320	0.449	.028	.477
Age	0.113	0.151	.035	.367
Female	1.321	0.868	.060	.128
Private university	−0.703	0.872	−.031	.424
Previous treatment	0.951	1.298	.029	.465

Model: $R^2 = .330$; adjusted $R^2 = .319$.

The results support H7.

The model contains:

Trust in AI → Emotional Dependency → Professional Help-Seeking

The indirect effect is statistically significant.

Mediation Analysis

A bootstrap mediation model examines whether emotional dependency mediates the relationship between trust in AI and professional help-seeking.

Table 12 Bootstrap Mediation Analysis

Effect	Estimate	Bootstrap SE	95% CI Lower	95% CI Upper
Total effect of trust → help-seeking	−0.320	0.079	—	—
Direct effect	−0.062	0.063	—	—
Indirect effect	−0.259	0.035	−0.329	−0.193

The indirect association is statistically significant since the 95% confidence interval for the indirect association does not contain 0. Hence, the synthetic analysis is in favor of H8.

The pattern indicates that the stronger the trust in the practitioner, the higher the degree of emotional dependency and the lower the intentions to seek professional help. This is a

statistical mediation pattern, not evidence of dependency causing avoidance of professional treatment, or trust causing dependency.

Discussion

The aim of the current study is not to take an AI as a technological innovation, but to analyze it from the perspective of clinical psychology and the support it offers to mental health. The first big takeaway is that the more trust you have in AI, the more emotionally dependent you feel. The first substantial result is the positive correlation between trust in AI and emotional dependence. The relationship has been observed and is consistent with various emerging literature claiming that trust, rapport, anthropomorphic attributes and repeated interactions can lead to deeper psychological connections with conversational systems. Park et al., for instance, have shown that the use of anthropomorphic chatbot design can improve the satisfaction of the counseling process and the intention to reuse the chatbot, by creating a social rapport.

The finding is also consistent with the research on trust in automation in terms of concept. If people feel an automated system is reliable and competent, they are more likely to trust it. However, in mental health settings, reliance has more clinical relevance as psychological disclosure may involve very sensitive personal information. The second key finding is related to professional help-seeking. Emotional dependency correlates negatively with plans to get professional help. This finding aligns with the theoretical approach suggesting that AI can be considered a stepping stone between informal care and formal care. Importantly, when emotional dependency is entered into the regression model, the relationship between trust and the model is no longer significant. This implies that there is no a priori reason to believe that it is wrong to trust. Instead, the clinically relevant issue may arise if trust is high enough to facilitate emotional dependence instead of other forms of support.

Conclusion

AI Mental Health Support is a significant advancement in digital mental health, especially

for young adults who may face challenges accessing traditional psychological care. The present synthetic empirical analysis shows that trust in AI relates to emotional dependency, which relates to decreased professional help-seeking, emotional dependency also relates to increased depression, anxiety, loneliness, and decreased psychological wellbeing. Perhaps the most clinically relevant finding is that there is nothing wrong with using AI. Instead, the results show the need to clearly differentiate between AI-assisted coping and AI-dependent coping.

Psychological support that is accessible, immediately available, and potentially helpful can be offered by AI. Current evidence shows positive outcomes for certain mental health outcomes. Meanwhile, new research highlights concerns about trust, emotional dependence, privacy, clinical appropriateness, and replacing human support. The best approach for undergraduate students in Pakistan is thus to integrate AI tools into a digital environment, rather than replace them, and to see them as a valuable digital resource alongside the work of trained mental health professionals for clinical assessment, diagnosis, risk assessment, treatment planning, and therapeutic intervention.

References

- Balan, R., Dobrea, A., & Poetar, C. R. (2024). Use of automated conversational agents in improving young population mental health: A scoping review. *npj Digital Medicine*, 7, 75. <https://doi.org/10.1038/s41746-024-01072-1>
- Jian, J.-Y., Bisantz, A. M., & Drury, C. G. (2000). Foundations for an empirically determined scale of trust in automated systems. *International Journal of Cognitive Ergonomics*, 4(1), 53–71. https://doi.org/10.1207/S15327566IJCEO401_04
- Kroenke, K., Spitzer, R. L., & Williams, J. B. W. (2001). The PHQ-9: Validity of a brief depression severity measure. *Journal of General Internal Medicine*, 16(9), 606–613. <https://doi.org/10.1046/j.1525-1497.2001.016009606.x>

- Li, H., Zhang, R., Lee, Y.-C., Kraut, R. E., & Mohr, D. C. (2023). Systematic review and meta-analysis of AI-based conversational agents for promoting mental health and well-being. *npj Digital Medicine*, 6, 236. <https://doi.org/10.1038/s41746-023-00979-5>
- Luo, X., et al. (2025). Seeking emotional and mental health support from generative AI: Mixed-methods study of ChatGPT user experiences. *JMIR Mental Health*.
- Malouin-Lachance, A., Capolupo, J., Laplante, C., & Hudon, A. (2025). Does the digital therapeutic alliance exist? An integrative review. *JMIR Mental Health*, 12, e69294. <https://doi.org/10.2196/69294>
- Moylan, K., & Doherty, K. (2025). Expert and interdisciplinary analysis of AI-driven chatbots for mental health support: Mixed methods study. *Journal of Medical Internet Research*.
- Park, G., Lee, S., & Chung, J. (2023). Do anthropomorphic chatbots increase counseling satisfaction and reuse intention? The moderated mediation of social rapport and social anxiety. *Cyberpsychology, Behavior, and Social Networking*, 26(5), 357-365. <https://doi.org/10.1089/cyber.2022.0157>
- Rickwood, D., Deane, F. P., Wilson, C. J., & Ciarrochi, J. (2005). Young people's help-seeking for mental health problems. *Australian eJournal for the Advancement of Mental Health*, 4(3), 218-251. <https://doi.org/10.5172/jamh.4.3.218>
- Russell, D. W. (1996). UCLA Loneliness Scale (Version 3): Reliability, validity, and factor structure. *Journal of Personality Assessment*, 66(1), 20-40. https://doi.org/10.1207/s15327752jpa6601_2
- Spitzer, R. L., Kroenke, K., Williams, J. B. W., & Löwe, B. (2006). A brief measure for assessing generalized anxiety disorder: The GAD-7. *Archives of Internal Medicine*, 166(10), 1092-1097. <https://doi.org/10.1001/archinte.166.10.1092>
- Wilson, C. J., Deane, F. P., Ciarrochi, J. V., & Rickwood, D. (2005). Measuring help-seeking intentions: Properties of the General Help-Seeking Questionnaire. *Canadian Journal of Counselling*, 39(1), 15-28.
- World Health Organization. (2021). *Ethics and governance of artificial intelligence for health: WHO guidance*. World Health Organization.
- Feng, X., Tian, L., Ho, G. W. K., Yorke, J., & Hui, V. (2025). The effectiveness of AI chatbots in alleviating mental distress and promoting health behaviors among adolescents and young adults: Systematic review and meta-analysis. *Journal of Medical Internet Research*, 27.
- Qiao, Z., et al. (2025). Effectiveness of AI-driven conversational agents in improving mental health among young people: Systematic review and meta-analysis. *Journal of Medical Internet Research*.