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Human Touch or AI Support: The Moderating Role of Engagement in Counseling Satisfaction

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ABSTRACT

Aim of the Study: In this modern era of technology, mental health services are evolving and the human versus AI-driven counseling services debate continues. The effectiveness of these services varies by service type, client engagement, and satisfaction with the service. The current explanatory study explores the moderating role of therapeutic engagement in shaping students' satisfaction with counseling services, whether human or AI-based, to provide insights into optimizing mental health support for students in diverse settings by analyzing its impact on counseling effectiveness.

Methodology: A total of 120 university students were selected through systematic sampling, 60 students for AI-based counseling and 60 for human counseling. After a month of counseling sessions, students' satisfaction levels and engagement with either human or AI counseling were recorded through SAPS and WAI instruments.

Findings: Results reveal that there are significantly lower levels of satisfaction and engagement observed from AI-based counseling compared to human counseling. The relationship between the type of counseling services and satisfaction among students is moderated by therapeutic engagement, though the interaction effect is not statistically significant.

Conclusion: The study concluded that AI-based counseling services are not a suitable replacement for human counselors, as AI has failed to build a strong therapeutic alliance and satisfaction with the clients as human counselors can. The study recommended the development and implementation of hybrid counseling models that combine AI and human counseling to leverage the strengths of both approaches, fostering meaningful therapeutic relationships, engagement, and satisfaction.

Keywords: Artificial Intelligence (AI), Therapeutic Engagement, Satisfaction, Human Counseling, AI-based Counseling, University Students.

1. INTRODUCTION

In this modern era of technology, mental health services are evolving and the human versus AI-driven counseling services debate continues. These AI-driven mental health counseling services enhance accessibility and efficiency in mental health care (Shahid et al., 2024). Despite this, traditional counseling relies on human empathy and meaningful connection. However, the effectiveness of these services varies by service type, client engagement, and satisfaction with the service. Thus, the current study explores the moderating role of therapeutic engagement in shaping students' satisfaction with counseling services, whether human or AI-based, to provide insights into optimizing mental health support for students in diverse settings by analyzing its impact on counseling effectiveness.

The addition of AI in mental health counseling has been widely studied in recent years. Particularly regarding its usage among university students with a focus on satisfaction and therapeutic engagement. Previous studies have shown that AI-powered chatbot systems understand user queries, interpret mental states, and generate naturally engaging responses that mimic human-like conversations and provide automated support (Casheekar et al., 2024; Rehman et al., 2024). In the debate over the effectiveness and practices of AI-based counseling services compared to human counseling, both counseling platforms have clear benefits and drawbacks, for example, AI excels for its capacity to reach a wider audience, provide instant responses to individuals, and offer affordable alternatives, yet lacks emotional depth (Ehtesham-Ul-Haque et al., 2024; Fiske et al., 2019; Hamdoun et al., 2023; Lim et al., 2022; Meng et al., 2023). On the other hand, human counselors provide a comprehensive and personalized approach to their clients with a deep understanding of emotions and personalized support (Leibert & Archer, 2006; Rehman & Sajjad, 2024).

Scholars Rehman et al. (2024) explored AI's impact on healthcare environments, which proves valuable in enhancing compliance with digital disease management programs and treatment interventions. However, AI's effectiveness is limited by notable challenges even with numerous advancements in mental health care, such as its possible effects on the patient-therapist relationship, lack of emotional intelligence, its ability to understand individual circumstances, and the risk of over-reliance on AI (Mirzaei, 2025; Rehman et al., 2024). Similarly, Chen et al. (2025) highlighted that AI-based chatbots are effective in nurse hotlines for anxiety and depression reduction, since these AI chatbots serve as supportive aids in mental health care, providing uninterrupted and timely assistance. However, they cannot replace professional human services due to their limitations in building personal connections and delivering emotional support (Chen et al., 2025). Additionally, Park et al. (2023) highlighted realistic AI chatbot features that can improve user satisfaction and engagement in counseling contexts, although their applicability varies across different mental health conditions.

1.1 Satisfaction with Counseling Services

Satisfaction with the counseling services plays a vital role in the counseling process that shapes the effectiveness and impact of mental health interventions, as mentioned by Hernawati (2020). Key factors that can influence the client's satisfaction with the counseling service encompass confidentiality, trust, and the counselor's impartial approach (Rehman & Sajjad, 2024). Additional factors include the right to choose the type of therapy, the impact of the therapeutic alliance on treatment effectiveness, and the broader benefits associated with client satisfaction, as highlighted by Ping (2017).

Furthermore, Zainudin and Yusop (2018) highlighted that client satisfaction is influenced by the arrangements or actions of the counselor and the reported effectiveness of the intervention rather than the specific identities of the counselor or client. Tanner (1981) identified factors such as the length of stay in treatment that play a vital role as dissatisfied clients drop out of treatment, whereas satisfied clients often have longer treatment durations and positive terminations. Satisfied clients with their mental health counseling typically characterize their counselors as empathic, sincere, active, warm, trusting, and interested (Zainudin & Yusop, 2018), while describing the mental health treatment as helpful. On the other hand, dissatisfied clients drop out early in the counseling process, describing their counselors as

uncaring, passive, judgmental, aloof, and lacking understanding (Hernawati, 2020; Ping, 2017; Zainudin & Yusop, 2018). The satisfaction of clients with their counselors in the counseling process may also depend on the type of therapy they have chosen for their mental health treatment. According to Hernawati (2020), when clients independently selected the type of therapy according to their needs and preferences, they were more satisfied. So, satisfaction contributed to better outcomes in mental health treatment, which not only increased adherence and improved clinical results (Zhang et al., 2024).

1.2 Therapeutic Alliance in Counseling Service

Therapeutic alliance, also known as a working alliance, therapeutic relationship, and engagement, plays a significant role in the field of psychotherapy and counseling. The therapeutic alliance involves the collaborative and trusting connection between a counselor and a client (Nagarajan, 2021). The effectiveness of therapeutic interventions depends on the strength of the relationship which is a critical factor with several essential components for success (Oudshoorn et al., 2023). Shoullis et al. (2023) described three core components of therapeutic alliance: (i) a collaborative therapist-client connection, (ii) goal and task alignment, and (iii) the collaborative nature of the relationship. Establishing a strong therapeutic alliance with these core elements early in the therapeutic process with a collaborative connection and aligned goals leads to more effective and favorable outcomes for clients (Ring & Gysin-Maillart, 2020). According to Fonagy and Allison (2014), the compassionate and non-judgmental presence of mental health counselors facilitates a deep sense of trust and understanding, allowing students or individuals to engage in their healing journey and discover their inner strengths and weaknesses. This feeling and connection are invaluable components of the therapeutic process, particularly for students and individuals facing complex mental health challenges (Rehman & Sajjad, 2024; Shoullis et al., 2023; Tong et al., 2024).

1.3 Therapeutic Alliance – Satisfaction Association

There is a strong connection between therapeutic engagement (alliance) and student or client satisfaction. The therapeutic alliance includes counselors' and clients' mutual trust and respect, shared treatment goals, and mutually developed collaborative relationships. Studies have highlighted that the fields of counseling, psychology, and psychotherapy show a strong positive correlation between clients and therapists, which leads to higher levels of satisfaction (Hamovitch et al., 2018; Oudshoorn et al., 2023).

A positive and trusted environment for clients in a supportive relationship with their mental health counselors develops a sense of comfort in clients. These clients are more likely to feel satisfied, understood, and easily discuss their areas of concern with their counselors (Oudshoorn et al., 2023). This strong relationship of respect and trust significantly contributes to higher satisfaction levels among clients (Little et al., 2023; Ring & Gysin-Maillart, 2020). When clients actively participate and engage in the counseling process and show their interest and motivation toward the counseling sessions, this robust therapeutic alliance enhances the effectiveness of therapeutic interventions (D'Alfonso et al., 2020). However, a weak therapeutic alliance leads to lower satisfaction levels among clients and impacts the overall effectiveness of mental health interventions (Little et al., 2023). Hence, mental health counselors emphasize establishing and maintaining a strong positive therapeutic alliance as a crucial factor in promoting client satisfaction and facilitating positive therapeutic outcomes (D'Alfonso et al., 2020; Fonagy & Allison, 2014; Shoullis et al., 2023).

1.4 Objective

The objective of the study was to investigate the moderating effect of therapeutic engagement in the relationship between the type of counseling services (human or AI) and students' satisfaction level with these counseling services.

1.5 Statement of the Problem

While AI-based counseling services have potential, their effectiveness and impact compared to traditional human counseling are still not fully understood, especially among university students. Students at the university level experience various mental health-related challenges during their academic journey and often seek mental health counselors for daily stressors. Unfortunately, universities face a shortage of mental health counselors to meet this growing demand. As a result, AI-based counseling platforms are becoming more commonly used among university students. This research aims to offer an in-depth evaluation of human counseling and AI-based counseling services to compare satisfaction levels and therapeutic engagement among university students.

1.6 Research Gap

There is a notable research gap in the literature comparing AI-based counseling services to traditional human counseling in terms of the satisfaction level of students with related therapeutic approaches. Existing literature has mainly focused on the development and feasibility of AI services rather than their actual impact on students seeking counseling support. Key areas remain unexplored, including limited empirical comparative studies, in-depth analysis of the therapeutic engagement in AI-based counseling, and students' satisfaction levels and benefits. Understanding the strength of the therapeutic alliance or engagement in AI-based counseling services and how students perceive and connect with AI remains relatively unexplored. Investigating students' satisfaction and perceived benefits in both counseling services is crucial to inform future developments.

1.7 Significance

The significance of this research lies in its potential to provide valuable insights into the effectiveness and impact of human counseling compared to AI for counseling services. The field of mental health therapy is going through a transformation due to advancements in AI. Understanding how AI can be utilized in the provision of counseling services and how it can be compared to human counseling, is crucial for shaping the future of mental health-related treatments. Therefore, the study aims to conduct a comprehensive comparative analysis of both counseling approaches to address the research gap and highlight the strengths and weaknesses of each counseling approach. The study further explores the strengths of therapeutic engagement and the satisfaction levels among students with each approach. The findings could provide important directions and guidance for shaping counseling practices to better meet the diverse needs of students seeking support for mental health issues. Additionally, findings could inform counselors, psychologists, mental health practitioners, stakeholders, policymakers, and technology developers about the potential role of AI in the domain of mental health counseling, ensuring responsible integration while preserving the essential human connection in therapeutic relationships. Furthermore, by exploring the satisfaction levels of students toward both approaches, including AI-based assistance, perceived benefits, limitations, and ethical concerns related to both approaches, the study seeks to contribute evidence-based understanding that will ultimately enhance the overall accessibility, efficacy, and student-centered care in mental health counseling.

2. RESEARCH METHODOLOGY

For this explanatory quantitative study, a positivist research philosophy was employed because of its objectivity and empirical observation, which holds that the world can be studied scientifically and systematically and that knowledge can be derived from observable and measurable phenomena (Meng & Liu, 2023). Typically, it is associated with deductive or logical reasoning, hypothesis testing, and structured surveys or experiments. Positivism helped generalize the findings related to the impact of AI in counseling and played a dominant role in the formulation and testing of the study's hypothesis through statistical techniques to ensure findings are generalizable to broader populations. Most importantly, this approach facilitated data analysis by identifying patterns and trends to determine the relationships

between variables. The variables for this study were classified into dependent, independent, and potential moderating variables, as shown in Figure 1.

Figure 1: *Variables of the study*
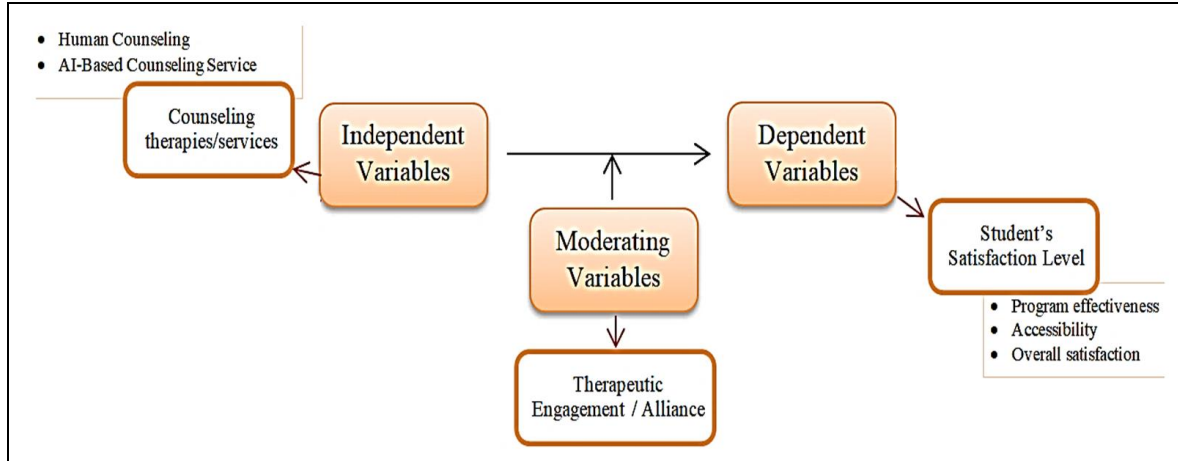
2.1 Sample Size

Participants were selected based on diagnosed mental health issues such as depression, anxiety, and stress by their university's counselors. The target group for this study was 120 university students aged 20 years and above. These students were systematically selected from six universities located on University Road, 20 students from each university. Taking into consideration their preference for human counseling or AI-based counseling services, the participants were divided into two distinct groups: one group received AI-based counseling services while the other group was engaged with traditional human counseling (one-to-one session). Over one month, their level of satisfaction and therapeutic engagement were assessed. Table 1 presents the demographic characteristics of the 120 participants; including 41 males and 79 females.

Table 1: *Demographic Characteristics of Students*

		Human-based counseling			AI-based counseling		
		N (60)	M	SD	N (60)	M	SD
Gender	Male	30 (50%)	1.50	.504	22 (36.7%)	1.63	.486
	Female	30 (50%)			38 (63.3%)		
Age	18 – 21	40 (66.7%)	1.43	.745	36 (60%)	1.55	.832
	22 – 25	17 (28.3%)			19 (31.7%)		
	26 – 29	0			1 (1.7%)		
	30 or above	3 (5%)			4 (6.7%)		
AI-based Platforms for Mental Health Assistance (counseling services)	Chatbot's	-			21 (35%)	2.62	1.678
	Wysa	-			5 (8.3%)		
	ChatGPT	-			15 (25%)		
	Lotus	-			6 (10%)		
	Elomia Health	-			6 (10%)		
	Woebot	-			7 (11.7%)		

2.2 Research Instrument

The Short Assessment of Patient Satisfaction (SAPS) and the Working Alliance Inventory (WAI) were employed in the study. These tools are freely available to researchers on the internet. The reliability of each tool was found to be strong, with SAPS Cronbach's Alpha at .85 and WAI Cronbach's Alpha at .86.

2.3 Data Collection and Analysis

Six universities were visited, and meetings were arranged with the students' counselors at their counseling departments to find students seeking mental health services. Data collection took place within the university counseling department, where counselors conducted counseling sessions. A total of 120 university students were selected, 60 students for AI-based counseling and 60 for human counseling. After a month of counseling sessions, students' satisfaction levels and engagement with either human or AI counseling were recorded by the researcher. Data was analyzed using SPSS software, with both descriptive and inferential statistics calculated.

2.4 Research Hypothesis

H_1: Therapeutic engagement moderates the relationship between the type of counseling services (human or AI) and students' satisfaction level with these counseling services

H_0: Therapeutic engagement doesn't moderate the relationship between the type of counseling services (human or AI) and students' satisfaction level with these counseling services

3. FINDINGS

3.1 Therapeutic engagement between counselors and students in human counseling vs. AI

Table 2 displays the descriptive statistics summarizing the scores of WAI for both counseling providing services. In the case of human counseling, the mean score of WAI was observed at 53.68 (SD=2.259), exhibiting a moderate level of engagement. Although the scores ranged from 48 to 59, they indicate relatively consistent engagement between students and the counselors. On the other hand, for AI providing counseling services, the mean WAI score notably differed at 22.43 (SD=2.174), indicating a significantly lower level of engagement compared to human counseling. Figure 2 represents the range of scores spanned from 18 to 27, showing a considerable difference in the engagement levels reported by the participants.

Table 2: *Descriptive Statistics of WAI of both counseling/guidance providing Services*

	N	*M*	*SD*	*Range*	*Minimum*	*Maximum*
Human Counseling	60	53.68	2.259	11	48	59
AI	60	22.43	2.174	9	18	27

Figure 2: *Therapeutic alliance scores of students receiving counseling from human counselors and AI.*
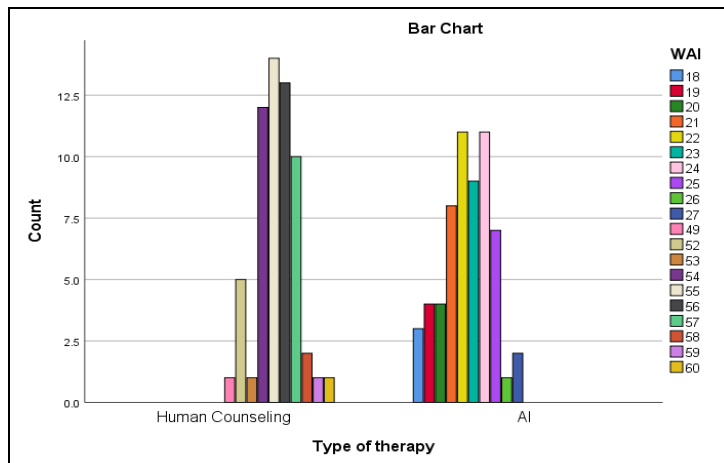
3.2 Student Satisfaction Level: Human versus AI-based Counseling

Table 3 displays the descriptive statistics of SAPS scores for both counseling services. In the case of human counseling, the mean score of SAPS was 20.40 (SD=1.417), exhibiting a moderate to high level of satisfaction. The scores, ranging from 18 to 24, consistently demonstrated the students' satisfaction with their respective counselors. In contrast, for the AI-based counseling services, the mean SAPS score notably differed at 14.43 (SD=2.078), indicating a significantly lower level of satisfaction compared to human counseling. Figure 3 shows the SAPS Scores for satisfaction levels among both groups. The scores ranged from 10 to 19 indicating a considerable difference in the satisfaction levels reported by the participants.

Table 3: *Descriptive Statistics of SAPS Scores of Both Groups*

	N	M	SD	Minimum	Maximum
Human Counseling	60	20.40	1.417	18	24
AI-based	60	14.43	2.078	10	19

Figure 3*: Satisfaction level (SAPS scores) among Both Groups*
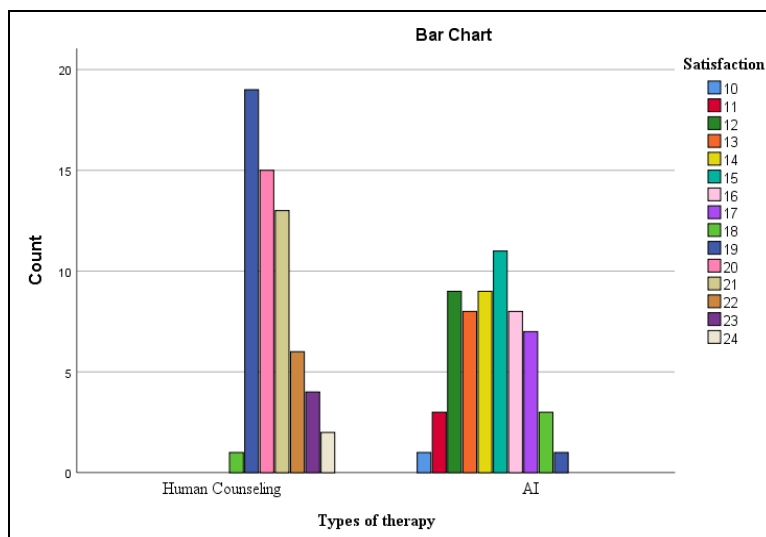
3.3 Research Question

Does therapeutic engagement work as a moderator in the relationship between the type of counseling services (human or AI) and students' satisfaction level with these counseling services?

> **Research Hypothesis (H$_1$):** Therapeutic engagement works as a moderator in the relationship between the type of counseling services (human or AI) and students' satisfaction level with these counseling services.

> **Null Hypothesis (H$_0$):** Therapeutic engagement doesn't work as a moderator in the relationship between the type of counseling services (human or AI) and students' satisfaction level from these counseling services.

For this research question, regression analysis was performed to examine the relationship between students' satisfaction and types of counseling services, considering therapeutic engagement as a moderating variable. Findings reveal in Table 4 that the overall model is statistically significant, as evinced by an R^2 of .745. This means that approximately 74.5% of the variance in students' satisfaction can be explained by the predictors. However, coefficients provide insight into the specific relationships between these variables. The constant indicates that the estimated mean level of satisfaction is 30.127 when all predictors are zero. The variable therapeutic engagement shows a negative relationship with satisfaction, but this relationship is not statistically significant (B = -0.151, p = .578). It is suggested that there might be a decrease in satisfaction as the level of therapeutic engagement decreases.

The type of counseling service (human counseling or AI) has a negative coefficient of -9.405, which is not statistically significant (p = .198), indicating a potential negative impact on satisfaction for AI-based counseling services as compared to human counseling. The interaction term 'type of counseling service by WAI' has a positive coefficient of 0.145 with no significant statistics findings (p = .378), which was used as the moderating effect of therapeutic engagement in the study.

The relationship between the type of counseling services and satisfaction among students is moderated by therapeutic engagement, though the interaction effect is not statistically significant. The results reveal that therapeutic engagement appears to have a non-significant negative association with the level of satisfaction, and the type of counseling service, and its interaction with therapeutic engagement doesn't reach statistical significance.

Table 4: *Regression Analysis between Variables*

Model Summary [a]	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.863[b]	.745	.738	1.781

Coefficients [a]	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
1 (Constant)	30.127	13.911		2.166	.032
WAI	-.151	.270	-.718	-.558	.578
Type of counseling service	-9.405	7.260	-1.357	-1.296	.198
Counseling service *x* WAI	.145	.164	.257	.885	.378

a. Dependent Variable: Satisfaction
b. Predictors: (Constant), counseling services. x. WAI, Type of counseling, WAI

4. DISCUSSION

Therapeutic engagement, a cornerstone of effective mental health treatment, refers to the quality and depth of the relationship between the counselor and the client, significantly influencing treatment outcomes. This relationship was observed in the current study between students and the counseling approach they used in their mental health counseling services. The findings reveal that students showed their interest in AI because it is easily accessible, but they could not engage with AI for their mental health treatment. This is due to the inability of AI to perceive students' emotional concerns or needs, the inability to build a strong relationship for exchanging ideas, and concerns regarding immediate feedback. However, students who engaged with human counseling showed positive outcomes in their mental health treatment. This is because human counselors understand their mental health issues easily because of real-life exposure. Furthermore, they can share their own life experiences and cases with students. Their empathy and understanding are crucial in building a strong therapeutic relationship with satisfaction. The specific techniques, such as active listening, empathy, and validation, utilized by human counselors in counseling services contribute to the strength of the therapeutic alliance in the counseling process.

The finding is supported by many research studies that highlight mixed perceptions of the therapeutic alliance between AI and human counseling. A study revealed that the transition from face-to-face traditional therapy to virtual counseling assistance has mixed effects on the therapeutic alliance that largely depend on the attitude and preferences of clients (Rehman & Sajjad, 2024; Shoullis et al., 2023). Similarly, D'Alfonso et al. (2020) highlighted the crucial concept of therapeutic alliance in traditional mental health therapy and emphasized that the direct translation of therapeutic alliance into digital mental health interventions has not been well-established. Its impact on digital interventions is still less clear, but it may affect engagement and adherence, which are directly linked to positive therapeutic outcomes and satisfaction in face-to-face therapy.

Another study by Tong et al. (2022) highlighted the crucial role of the digital therapeutic alliance in fully automated mental health apps. This absence of human interaction necessitates a strong focus on user engagement, responsive design, and personalized experiences. Further challenges, as described by Tong and his team, include replicating the empathetic aspects of traditional therapy and ensuring data security and confidentiality. The contemporary study also highlighted that while digital tools can empower service users, they may also risk weakening the therapeutic aspects of in-person care that impact their therapeutic alliance, including social connection and empathy that could lead to disengagement from mental health care (Rogan et al., 2024). In the same way, Grodniewicz and Hohol (2024) highlighted the role and potential of AI Chatbots in mental health care and mentioned that existing AI-based applications for mental health counseling are not substitutes for human-delivered psychotherapy and should not be considered digital therapists. Instead, they serve a different function within mental health care. These applications mimic a therapeutic environment, offering users a quasi-therapeutic experience that cannot serve as a direct replacement for human therapists. Similar findings were observed by Bévort et al. (2024), who stated that AI can only generate empathetic responses to the clients' statements but doesn't have a strong ability to emotionally connect with the clients.

5. CONCLUSION

The current study, based on the findings, concluded that AI-based counseling services are not a suitable replacement for human counselors, as previous studies support these findings. These AI-based platforms can provide theoretical guidelines and support to individuals with minor mental health-related issues or can assist with problem-solving skills. However, it cannot fulfill the needs of all individuals and is unable to deal with every practical situation that requires immediate actions and human interactions. Thus, in this instance, AI has failed to build a strong therapeutic alliance and satisfaction with the clients as human counselors can. Thus, it is concluded that human counselors who excel in upholding long-term engagement and continuous support toward the client lead to increased satisfaction. Similarly, consistent

and regular follow-ups by the students with a familiar mental health counselor can provide a sense of stability in their mental health.

5.1 Recommendations

There is a need to develop and implement hybrid counseling models that combine AI and human counseling to leverage the strengths of both approaches, fostering meaningful therapeutic relationships, engagement, and satisfaction. Furthermore, to enhance counselors' abilities to provide comprehensive care, human counselors need to be trained to effectively use and integrate AI into their counseling practice to improve efficiency, and to support, not replace, human counselors. However, to continually assess and improve the effectiveness of both counseling approaches, mental health counselors and technology developers must establish continuous feedback loops for refinement and progress. For this purpose, continuing research is required in AI counseling to inform best practices and policy, particularly regarding effectiveness, ethical considerations, and the lasting impact of AI in counseling services.

5.2 Limitations

The study was limited to university students, with a small or non-representative sample size, limiting its generalizability. There was a lack of long-term data on AI-based counseling efficacy compared to traditional therapy. Additionally, the lack of standardization in AI-based counseling systems, along with general AI challenges, such as limitations and errors, affects the consistency of the findings.

5.3 Ethical Consideration

The researcher adhered to ethical guidelines for this study by ensuring that all students provided informed consent to ensure that the participants were fully aware of the study's purpose, potential risks, and benefits before participating in the study. Furthermore, the participant's identity was protected by anonymizing their data and securely storing personal information to prevent unauthorized access. Confidentiality was strictly maintained and participants were treated with respect.

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