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LEVERAGING MENTAL HEALTH CARE THROUGH ARTIFICIAL INTELLIGENCE

MARISSA C. ESPERAL
SOUTHERN LUZON STATE UNIVERSITY, LUCBAN, QUEZON, PHILIPPINES, EMAIL: mlcesperal@slsu.edu.ph

Abstract— This study assessed the impact of AI-assisted mental health care on adults experiencing symptoms of anxiety and depression. It tested the hypothesis that there is no significant effect of AI-assisted mental health care on the symptoms experienced by the selected clients. A mixed-method combined surveys, pre-test-post-test analysis, and brief interviews to collect data. A total of 97 adults experiencing symptoms of anxiety and depression voluntarily signed up and availed of the AI-assisted mental health care. Google Forms questionnaires were used to assess the impact of the services, while pre-test and post-test results from GADT and BD-II served as primary data, analyzed using percentage, weighted mean, and t-test for dependent means. Findings showed that AI-assisted mental health care has significant positive effect on the psychological well-being of adults experiencing anxiety and depression. Collaboration with government and non-government agencies is recommended for the broader implementation of AI-assisted mental health care for other individuals in need.
Keywords— Artificial Intelligence, Leveraging, Mental Health Care

INTRODUCTION

Artificial Intelligence (AI) has been in the mainstream of mental health care for about seven decades now since it started in the 1970's (Anyoha R., 2017). Not all experts in the field however, have embraced the application and incorporation of AI in mental health practices (Thi Xian, X. et. al., 2024). It gave rise to a divided opinion among themselves; while others promote the use of AI in providing mental health services; the other group questions its effectiveness and applicability. It has always been the case throughout the history because human beings have their respective phases in embracing advance technology and making them a part of their daily lives even in their practice of profession. Planetary health has long been introduced as a part of the UN Sustainable Development Goals (https://www.who.int/). Yet, for some it's not at all easy to incorporate in our lives the sudden shift from the traditional to the modern, from the manual to the technological, from face-to-face to virtual. The occurrence of COVID-19 pandemic unintentionally and yet, forcefully gets us to shift gears. Online classes, if not modular or flexible learning suddenly became the mainstream, virtual meetings became our regular mode; tele-medicine suddenly became the requirement. In the midst of reservations about AI-assisted mental health services, we have also come to the time when the only easier and more convenient choice is just to avail of the AI option. For this reason, this study was undertaken as one way of leveling up the services that the university can provide not just to its students and personnel but can still be extended to its surrounding communities. Indeed, application of AI helps leverage the mental health services to make it faster, more convenient, more encompassing and thus, more inclusive. Through AI, mental health services can traverse distances, varied terrains, different economic status, and more importantly, it can traverse through a pandemic such as COVID-19.

Research Objectives

This study assessed the impact of the use of AI in providing mental health care among selected adults experiencing symptoms of anxiety and depression.

Specifically, this research intended to:

1. Describe the background of clients who avail of AI-assisted mental health care;
2. Assess the impact of AI-assisted mental health care on the psychological well-being of the volunteer clients in terms of the selected categories; and
3. Determine the effects of AI-assisted mental health care on the symptoms experienced by the clients.

Research Hypothesis

This research tested the hypothesis that there is no significant effect of the AI-assisted mental health care availed by the clients on the symptoms they experienced.

Conceptual Framework

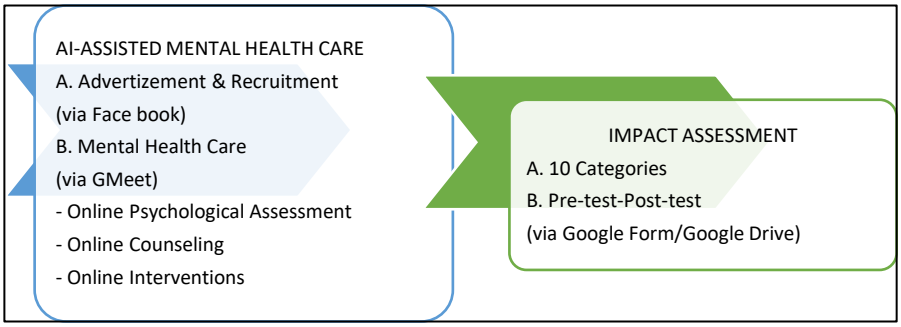

Figure1 Research Paradigm

Figure 1 presents the research paradigm that summarizes how this research project was conceptualized. The research intends to assess the impact of AI-assisted mental health care on the psychological well-being of its consumers. Specifically, it focuses on the use of Face book and Messenger for advertising and recruitment for online mental health care and the use of selected Google Apps (Google Meet, Google Form, Google Drive) not simply as adjunct but the main platform for delivering mental health care. The research delves on assessing the impact of these AI-assisted mental health care on clients' psychological well-being in terms of selected categories such as relevance, applicability and effectiveness.

METHODOLOGY

This research assessed the impact of AI-assisted mental health care on adults experiencing symptoms of anxiety and depression. A mixed-method approach combined surveys, pre-test-post-test analysis, and brief interviews. Recruitment for the participation in the mental health care was promoted via Facebook, ensuring voluntary participation and ethical compliance. Clients used code names for confidentiality. Over 22 months, 97 clients signed up, completed consent forms, and accessed free AI-assisted mental health care services via Google Meet. Registered guidance counselors and a licensed psychologist conducted AI-assisted assessments, counseling, and psychotherapy. Available online tools like the Beck Depression Inventory II, and Generalized Anxiety Disorder Test, and other relevant online tests were used. Clients requiring advanced care however, were recommended for actual face-to-face sessions and referred to mental health institutions as deemed necessary. Most clients attended 3-5 sessions, with some extended to 7. Post-mental health care evaluations from 97 clients and pre-test-post-test data from 26 participants were analyzed using percentage, weighted mean, and t-test for dependent means.

RESULTS AND DISCUSSIONS

Findings of this study shows that most clients (38.92%) discovered the AI-assisted mental health care through Facebook posts, followed by referrals from friends (33.50%) and family members (10.34%). The chief complaints of these clients were primarily anxiety and panic attacks (36.5%), followed by depression (19.2%), emotional breakdown (16.7%), mental instability and sleeping problems (both 11.8%), and suicidal thoughts (9.85%). These findings align with WHO's (2022) report that anxiety and depression were prevalent during and even after the pandemic. Notably, the top complaints are closely linked, falling under anxiety or depression.

TABLE 1 SUMMARIZED ASSESSMENT OF THE IMPACT OF AI-ASSISTED MENTAL HEALTH CARE AVAILED BY THE CLIENTS

Categories	Weighted Mean	Interpretation
1. Helping one cope	2.82	Most likely
2. Relevance	2.95	Most likely
3. Usefulness	2.78	Most likely
4. Bringing relief	2.86	Most likely
5. Effectiveness	2.42	Most likely
6. Suitability	2.96	Most likely

7. Providing insights	2.75	Most likely
8. Bringing positive outcomes	2.69	Most likely
9. Instilling hope	2.78	Most likely
10. Recommemdability	2.96	Most likely
Overall Weighted Mean	2.80	Most likely

Range: 0-0.75 Not likely 0.76-1.5 Less likely 1.60-2.25 More Likely 2.26-3.0 Most Likely

Table 1 presents the summarized assessment of the impact of AI-assisted mental health care availed by the adults experiencing symptoms of anxiety and depression. The overall weighted mean of 2.80 (n=97) shows that the clients positively rated the impact of the AI-assisted mental health care on their psychological well-being. They rated all the 10 categorical statements as **"most likely"** to help clients cope, bring sense of relief and healing, provide insights, bring positive outcomes, instill hope, relevance, practicality, effectiveness, suitability, and recommendability.

TABLE 2 CLIENTS' PRE-TEST AND POST-TEST MEAN SCORES ON GADT AND BDII

	Mean	**N**	**SD**	**SEM**
Pair 1 (GADT)				
Pre-test	13.154	26	4.969	.975
Post-test	8.1154	26	4.828	.947
Pair 2 (BDI II)				
Pre-test	31.231	26	10.967	2.151
Post-test	18.154	26	14.107	2.777

Table 2 shows the pre-test and post-test mean scores of the 26 clients who completed the two tests, GADT and BDI II. It reveals that pre-test scores and post-scores are far different from each other by more than 5 units in both tests. The pre-test score means are greater than those of the post-test score means. However, standard deviations are very close. This means that the two variables have approximately the same level of dispersion or variation. To further determine the effectiveness of the AI-assisted mental health care rendered to the clients, the Paired Samples Test of Differences was employed for the analysis of the Pre-Test and Post-test scores on GADT and BDI II.

TABLE 3 PAIRED SAMPLES TEST OF DIFFERENCES

	Mean	**n**	**SD**	**SEM**	**95% Confidence Interval**		**t**	**df**	**LOS (2-tailed)**
					Lower	Upper			
Pre-test-Post-test (GADT)	5.04	26	3.90	.77	3.46	6.62	6.581	25	<.001**
Pre-test-Post-test (BDI II)	13.27	26	10.43	2.04	9.06	17.48	6.490	25	<.001**

**Significant p-value at 1% margin of error *Significant p-value at 5% margin of error

Table 3 presents the Paired Samples Tests of Difference in the pre-test and post-test data from GADT and BDI-II. With a computed t-value of 6.581 for GADT and 6.490 for BDI II, it reveals that there are significant average differences between pre-test scores and post-test scores in both tests ($p < 0.001$), thus, suggesting rejection of the Null Hypothesis and indicating positive effects and notable improvement among the clients. This confirms the effectiveness of AI-assisted mental health care for clients experiencing symptoms of anxiety and depression. Clients also provided a positive overall evaluation of the services, highlighting its positive impact on their psychological well-being, more specifically, on the symptoms that they experienced prior to the mental health care they availed.

SUMMARY

This research assessed the impact of the AI-assisted mental health care for individuals in need. It also explored the background of clients who accessed these services. Using a mixed-method approach, data were collected

through surveys, pre-test-post-test analysis, and brief interviews. Over 22 months, 97 clients signed up for the project though the Facebook page. Findings showed that the project successfully reached a diverse population, primarily females aged 23-27, with significant LGBTQ++ representation. Most clients had college degrees and professional jobs, while many were students and non-professionals—the primary target group. Half of the participants were from Region IVA, particularly Quezon Province. Clients accessed various AI-assisted mental health care services, mainly through Facebook and referrals. Evaluations confirmed the AI-assisted mental health care's relevance and effectiveness in addressing anxiety and depression. Interviews supported this claim.

CONCLUSIONS

Based on the findings of the study, it is concluded that the AI helps leverage mental health care; from advertisement to institution of the online consultation, assessment and counseling services. It has successfully accomplished its purpose and proved its positive impact on the psychological well-being of its beneficiaries.

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