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Artificial Intelligence (AI) as Predictor of Psychological Well-Being Among Undergraduates of Chukwuemeka Odumegwu Ojukwu University, Igbariam Campus, Anambra State

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ABSTRACT

This study investigated artificial intelligence (AI) as a predictor of psychological well-being among undergraduates of Chukwuemeka Odumegwu Ojukwu University, Igbariam Campus, Anambra State. Two research questions and two null hypotheses were formulated to guide the study. Correlational research design was employed. Population of the respondents comprised 13,010 undergraduates drawn from four faculties in the University. 379 undergraduates made up the sample for the study. Stratified random sampling technique was used to randomly draw the sample of the study. The stratification was based on gender. Data was collected using two instruments thus: Questionnaire on the Use of Artificial Intelligence (QUIA) by Vera (2023) and Psychological Well Being Scale by Ryff (1989). Data generated were analyzed using Linear Regression statistics. The result of data analysis showed that artificial intelligence (AI) significantly and positively predicted psychological well-being among undergraduates in the area of the study. Moreover, artificial intelligence (AI) significantly and positively predicted psychological well-being among male and female undergraduates in Chukwuemeka Odumegwu Ojukwu University, Igbariam Campus, Anambra State. The study among others recommended that educational psychologists, guidance counselors, educational institutions can ensure that artificial intelligence (AI) complements rather than replaces traditional teaching methods, eventually fostering a more positive, adaptable, well-organized, and personalized learning environment that supports the development of essential skills for future success of undergraduates as well as promote their psychological well-being.

Keywords: Artificial Intelligence (AI); Psychological Well-being; Undergraduates

INTRODUCTION

Universities are designed to provide teaching, research and learning facilities. It is an essential aspect of formal education system that plays a crucial role in economic, social and cultural development. University is an institution of higher learning that grants access to facilities for research, teaching and learning as well as approving academic degrees to undergraduates and postgraduates in various disciplines (Muokwue, 2025). She further added that it is demanding to transit to university for many students, and it is essential to support their psychological wellbeing during this period. University life is fraught with emotional states such as anxiety, pressure, and stress that artificial intelligence (AI) could either exacerbate or improve as the case may be (Chassignol, et al., 2018). The unclear impact of artificial intelligence (AI) on the psychological well-being of undergraduates also remains a challenge.

Today's busy world and economic issues have made undergraduates prone to mental disorders such as frustration, anxiety, stress, depression from high workload as they strive to meet the pressures associated with academic demands, social adjustment, uncertainty about future careers, emotional difficulties, academic deadlines, examinations, coursework, decreased academic motivation, lower levels of concentration, and impaired cognitive functioning, social pressures in balancing interpersonal relationships and significant life changes and students seeking counseling services to address these conditions. Likewise, students with positive psychological wellbeing tend to achieve academically well and are more likely to employ positive coping strategies when they face adversity (Suran, et al. (2024). World Health Organization (WHO) opined that mental health conditions are a leading cause of disability, and approximately 1 in 5 individuals globally will experience a mental disorder at some point in their lives (Eden et al., 2024). Moreover, conventional campus mental health services, such as counseling and psychiatric support, are often besieged and under-resourced to meet the demand for today's services (Eden et al., 2024). Again, the scarcity of mental health professionals, the stigma associated with seeking help and waiting for a long hour, have made these services less accessible and effective for many undergraduates (Derzsi-Horváth et al., 2024). As a result, there is a dire necessity for alternative solutions that are available, easy to get to, and confidential to help bridge the gap in psychological wellbeing support for university undergraduates. This solution has surfaced with artificial intelligence (AI) as a veritable tool in tackling these challenges by offering innovative ways of supporting psychological wellbeing of undergraduates (Derzsi-Horváth et al., 2024). They further itemized examples as specific AI-powered innovations using natural language processing and machine learning, such as Chatbots that provide students with immediate support and resources for managing stress, anxiety, and other mental health concerns; Personalized stress management plans that analyze undergraduates data and create tailored stress management plans, including coping strategies and relaxation techniques; Early detection of mental health issues that analyze student behaviour, academic performance, and other data to identify early warning signs of mental health issues; Virtual reality therapy that provide immersive and interactive experiences to help undergraduates manage anxiety, phobias, and other mental health concerns; Sentiment analysis that help identify undergraduates' emotional states and provide targeted support and resources; Mental health predictive analytics that help identify undergraduates at risk of mental health issues and provide proactive support and interventions; AI-powered mindfulness and meditation tools that

provide undergraduates with guided relaxation techniques and stress management strategies and 24/7 support hotlines that provide undergraduates with immediate support and resources for managing mental health concerns.

Psychological well-being is being positive about one's life in thinking, feeling and acting towards oneself and others (Muokwue, 2025). Unless psychological wellbeing studies, particularly with artificial intelligence (AI) interventions, are conducted, universities risk missing out on the possibility of achieving wellbeing of students. Suran, et al. (2024) found that students mostly rated artificial intelligence as easy and accessible tool to use. They are more likely to engage with artificial intelligence because it is easy to navigate and be responsive to their queries.

Artificial intelligence (AI) is intelligent machine that creates intelligent behaviour, aims to mimic and enhance human behaviour and perform tasks that typically require human intelligence. Artificial intelligence is incognito, available as well as accessible, which helps to reduce the stigma associated with seeking help from people. These attribute places artificial intelligence as a very unique, self-directed, and inexpensive alternative for undergraduates when considering psychological wellbeing to complement the traditional mental health services (Derzsi-Horváth et al., 2024). Russell and Norvig (2021) opined that, artificial intelligence (AI) is the capability of computational system to perform tasks that are typically associated with human intelligence such as learning, problem-solving, reasoning and taking decisions. The effectiveness of artificial intelligence in fostering psychological wellbeing is obvious. This could be seen through studies conducted by Li, et al. (2023) which investigated the efficacy of artificial intelligence-based interventions; it was noted that artificial intelligence tools, such as Woebot, significantly improved the mental health of users through the implementation of cognitive behavioural therapy techniques. This ability of artificial intelligence to provide 24/7 support has been considered an added advantage because it offers immediate support during distressing moments. Thus, undergraduates, who are faced most times with academic and personal pressures, may find artificial intelligence particularly helpful since it is available anytime, thus addressing the waiting problem.

Again, artificial intelligence can help students understand their wellbeing better and give them feedback on their particular situation. For example, research by Suran, et al. (2024) indicates that artificial intelligence facilitates self-expression and mindfulness, engages users in self-reflection, stress management, and problem-solving exercises which are essential components of stress and anxiety management. Thus, as students interact with artificial intelligence, they can share their feelings without any apprehension and receive instant, non-judgmental responses, which may be conducive to increasing psychological wellbeing and self-regulation in them. Regardless of the apparent prospective, the use of artificial intelligence for undergraduates concerning psychological wellbeing has not been well investigated. Though artificial intelligence has been studied in various sectors, including healthcare and customer service, their specific impact on the psychological wellbeing of undergraduates has not been thoroughly evaluated. Most studies have been on either clinical applications or broad technological trends (Xian et al., 2024). Only a few studies have assessed the use of artificial intelligence for the specific needs of university students. However, many of the available studies either focus on general artificial intelligence applications in healthcare or on clinical populations, without adequately considering the student context in using

artificial intelligence as self-help tool (Li et al., 2023). Students are meant to use artificial intelligence independently to manage their psychological wellbeing since it has been found to be effective in the aspects of mental health. Likewise, Eid et al., (2023) opined that several studies have shown that artificial intelligence can provide emotional support and help manage symptoms of mental health conditions such as anxiety and depression. The study intends to find out whether being male or female plays significant impacts in artificial intelligence predicting psychological wellbeing.

Gender is considered an important influence on artificial intelligence and psychological wellbeing. Gender is the characteristics of men, women, boys and girls that are socially constructed, which includes norms, behaviours and roles associated with being a man, woman, boy or girl, as well as the relationship with each other. However, findings of studies on gender differences in artificial intelligence and psychological wellbeing are not conclusive. Although, differences between male and female in relation with artificial intelligence and psychological well-being have been found in numerous studies; neither the cause nor the explanatory process is known. Poudel et al (2020) stated in the study that artificial intelligence is generally perceived differently among male and female. Studies have reported higher levels of psychological distress among females than males. Regarding the sources of artificial intelligence, females perceived more artificial intelligence than their male counterparts. This study intends to find out if these findings equally apply to undergraduates in Anambra State. Again, Poudel et al (2020) further emphasized that girls used artificial intelligence more often whereas boys used less. What is clearly lacking in the current literature is a focused examination of how artificial intelligence can support university male and female undergraduates' psychological wellbeing in the study area. In view of the above discourse, the study explored artificial intelligence (AI) as predictor of psychological well-being among undergraduates of Chukwuemeka Odumegwu Ojukwu University, Igbariam Campus, Anambra State.

Statement of the Problem

The study of mental health has continued to be a dominant issue and great health challenge affecting the wellbeing of individuals in all spheres of life. This situation has attracted the attention of psychologists, teachers, health workers and other stakeholders who are interested in the welfare of the child, adolescents and adults. In attempt to address these health concerns, scholars have conducted studies on the causes and effect of psychological wellbeing among undergraduates. Some other studies have been conducted to handle cases of students with poor mental health conditions such as depression, stress, burnout, sleeplessness, anxiety, uncertainty, hopelessness, insomnia, and lack of interest, which affects the undergraduates in one way or the other. Unfortunately, most of these studies did not explore the relationship between psychological wellbeing and suspected psychological factors such as artificial intelligence. It is this gap in knowledge that the present study addressed. The problem of this study therefore is stated thus: what is the predictive value of artificial intelligence on psychological wellbeing of undergraduates in Chukwuemeka Odumegwu Ojukwu University.

Purpose of the Study

The general purpose of this study is to determine the predictive value of artificial intelligence on psychological wellbeing of undergraduates in Chukwuemeka Odumegwu Ojukwu University, Igbariam campus. Specifically, the study sought to:

1. Examine the predictive value of artificial intelligence on psychological wellbeing of undergraduates in Chukwuemeka Odumegwu Ojukwu University.
2. Ascertain the predictive value of artificial intelligence on psychological wellbeing of male and female undergraduates in Chukwuemeka Odumegwu Ojukwu University.

Research Questions

The study was guided by the following research questions

1. What is the predictive value of artificial intelligence on psychological wellbeing of undergraduates in Chukwuemeka Odumegwu Ojukwu University.
2. What is the predictive value of artificial intelligence on psychological wellbeing of male and female undergraduates in Chukwuemeka Odumegwu Ojukwu University.

Hypotheses

The following null hypotheses were formulated and tested at 0.05 level of significance.

1. Artificial intelligence will not significantly predict psychological wellbeing of undergraduates of Chukwuemeka Odumegwu Ojukwu university Igbariam campus.
2. Artificial intelligence will not significantly predict psychological wellbeing of male and female undergraduates.

METHOD

The study adopted a correlational research design. The study was conducted in Chukwuemeka Odumegwu Ojukwu University Igbariam campus. The population of the respondents comprised 13,010 undergraduates drawn from 300 levels from four faculties in the University. The sample consisted of 379 (male = 167 and females = 230) selected through proportional stratified random sampling technique. The study employed two standardized instruments namely: Questionnaire on the Use of Artificial Intelligence (QUIA) by Vera (2023) and psychological well-being scale by Ryff (1989) to collect data. Psychological Wellbeing Scale was developed by Ryff (1989) and adopted by the researcher. It is 42-item scale that measures six aspects of well-being and happiness: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life and self-acceptance. Some of the items read: "I am proud of myself to I am becoming more confident", among others. The response formats are strongly disagree = 1 to strongly agree = 6. Researchers have used the 42-item Psychological Wellbeing Scale with American adults of all ages, including those from lower income backgrounds (Ryff & Keyes, 1989). Also in Nigeria, it has been used by Nzenwaka, et al (2021) where all the scholars obtained a Cronbach alpha of 0.90.

The second instrument was Questionnaire on the Use of Artificial Intelligence (QUIA). It was developed by Vera (2023) and adopted by researchers. It is 25-item scale that measures five aspects of Artificial Intelligence: General Perception of AI in Higher

Education (GPI) to Future Expectations of AI in Higher Education (EAI). Some of the items read, Artificial intelligence has great potential to improve the quality of higher education to Chatbots have been implemented in my educational institution to support students, among others. The response formats are strongly disagree = 1 to strongly agree = 5. Researchers have used the 25-item Questionnaire on Western countries across the US, UK, Germany, and Switzerland (Gerlich, 2023); a Cronbach Alpha of 0.75 was reported. The researchers, with the help of three research assistants, administered 385 copies of the instruments on the respondents. Thus, exercise lasted for two weeks. Out of the 385 copies administered, a total of 379 were retrieved while 6 copies were discarded because they were not correctly completed. The data collected were statistically analyzed using simple regression statistics. SPSS version 26 was the statistical package used for all the computation.

Presentation of Results

The data generated through the instruments were analyzed in accordance with the research questions and the null hypotheses that guided the study.

Research Question 1: What is the predictive value of artificial intelligence on psychological wellbeing of undergraduates in Chukwuemeka Odumegwu Ojukwu University.

Table I: Simple Regression Analysis for artificial intelligence predicting psychological well-being among undergraduates in Chukwuemeka Odumegwu Ojukwu University.

Mode 1	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					
					R Square Change	F Change	df1	df2	Sig	P change
1	0.784a	0.612	0.613	3.16041	0.612	10984.136	1	253	0.000	

a. Predictors: (Constant), ARTIFICIAL INTELLIGENCE

Simple Regression Analysis for artificial intelligence predicting psychological wellbeing among undergraduates in Chukwuemeka Odumegwu Ojukwu University in Anambra state. Table 1 indicated the regression analysis for the amount of variation in psychological well-being among undergraduates in Chukwuemeka Odumegwu Ojukwu University, Anambra state that was predicted by artificial intelligence. The result showed that when the responses of respondents on artificial intelligence were correlated with psychological well-being, a correlation coefficient (R) of 0.784 with associated coefficient of determination (R²) of 0.612 were obtained. This coefficient of determination (R²) of 0.612 implied that 61.2% variation in psychological wellbeing was predicted by artificial intelligence.

Research Question 2: What is the predictive value of artificial intelligence on psychological wellbeing among male and female undergraduates in Chukwuemeka Odumegwu Ojukwu University, Anambra state?

Table 2: Simple Regression Analysis for artificial intelligence predicting psychological wellbeing among male and female undergraduate in Chukwuemeka Odumegwu Ojukwu University

Variable	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics					
						F Change	df1	df2	Sig change	F	Remark
Male AI	0.795a	0.631	0.621	3.18327	0.631	4469.066	1	98	0.000		Strong prediction
Female AI	0.883	0.780	0.768	3.15706	0.780	6460.784	1	153	0.000		Strong prediction

a. Predictors: (Constant), ARTIFICIAL INTELLIGENCE

Result in table 2 showed that artificial intelligence strongly predicted male artificial intelligence in psychological well-being as shown by the regression coefficient ($R = 0.795$). Invariably, artificial intelligence also strongly predicted female artificial intelligence in psychological well-being as shown by the regression coefficient ($R = 0.883$). The coefficient of determination of male ($R^2 = 0.631$) and that of female ($R^2 = 0.780$) implied that 63.1% for male and 78.0% for female variations in male and female psychological well-being were accounted for by the variations in artificial intelligence. The adjusted R^2 of male ($Adj R^2 = 0.621$) and of female ($Adj R^2 = 0.768$) supported R^2 of male and female by indicating that 62.1% for male and 76.8% for female of the total variation in the dependent variable (undergraduates' male and female psychological wellbeing) was explained by the independent variable (artificial intelligence). Hence, artificial intelligence strongly predicted male and female undergraduates' psychological wellbeing.

Hypothesis I: Artificial intelligence would not significantly predict psychological well being among undergraduates in Chukwuemeka Odumegwu Ojukwu University, Anambra State.

Table 3: Regression ANOVA test of significance for the variation in psychological well-being predicted by artificial intelligence

ANOVAa

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	109711.378	1	109711.378	10984.136	0.000b
	Residual	3775.527	253	9.988		
	Total	113486.905	254			

a. Dependent Variable: PSYCHOLOGICAL WELL-BEING

b. Predictors: (constant), ARTIFICIAL INTELLIGENCE

Data analysis in Table 3 revealed that the variation in psychological wellbeing that was predicted by artificial intelligence was significant ($F(1,253)=10984.136$, $p = 0.000$). This associated probability value of 0.000 when compared with 0.05 level of significance at which the hypothesis was tested, was found to be significant since .000 was less than 0.05. Invariably, the null hypothesis was rejected, and the inference drawn was that there was a significant variation in psychological well-being among

undergraduates in Chukwuemeka Odumegwu Ojukwu University in Anambra state that was predicted by artificial intelligence.

Hypotheses 2: Artificial intelligence would not significantly predict psychological wellbeing of male and female undergraduates in Chukwuemeka Odumegwu Ojukwu University.

Table 4: Regression ANOVA test of significance for the variation in psychological wellbeing of male and female undergraduates predicted by artificial intelligence

Male AI	0.851a	0.724	0.712	8598.998	0.000b	Significant
female AI	0.889	0.790	0.771	9030.366	0.000 b	Significant

- a. dependent variable: male and female undergraduates' psychological wellbeing
- b. predictors: (constant), male and female artificial intelligence

The summary of simple regression analysis of male and female undergraduates' psychological wellbeing as shown in Table 4 indicated that F-ratio associated with regression was 8598.998 for male and p-value of 0.000 while F-ratio associated with regression was 9030.366 for female and p-value of 0.000. Since the p-values (0.000 and 0.000) were less than 0.05 level of significance, the null hypothesis of no significant prediction of male and female undergraduates' psychological wellbeing by artificial intelligence was rejected. In the same vein, artificial intelligence significantly predicted male and female undergraduates' psychological well-being.

DISCUSSION

The opinion of the respondents in Table 1 and 3 indicated that undergraduates agreed that artificial intelligence strongly and positively predicted psychological wellbeing. The analysis in Tables 1 and 2 also showed that artificial intelligence significantly predicted psychological wellbeing of undergraduates in Chukwuemeka Odumegwu Ojukwu University, Anambra state. This implied that artificial intelligence was associated with psychological wellbeing of undergraduates. In line with this finding, Eid et al., (2023) established that students are meant to use artificial intelligence independently to manage their psychological wellbeing since it has been found to be effective in domains of mental health. Likewise, he emphasized that several studies have shown that artificial intelligence can provide emotional support and help manage symptoms of mental health conditions such as anxiety and depression. This finding supports existing literature emphasizing the crucial role of artificial intelligence in maintaining mental health.

The view of the respondents in Table 2 and 4 indicated that undergraduates agreed that artificial intelligence strongly and positively predicted psychological wellbeing of male and female undergraduates. The analysis in table 2 also showed that artificial intelligence significantly predicted psychological wellbeing of male and female undergraduates in Chukwuemeka Odumegwu Ojukwu University, Anambra State. This implied that artificial intelligence is associated with psychological wellbeing of male and

female undergraduates. In line with this finding, Poudel et al (2020) maintained that artificial intelligence is generally perceived differently among male and female. He further emphasized that girls used artificial intelligence more often whereas boys used less.

IMPLICATIONS OF THE STUDY

Several implications may be drawn from the findings of the present study for educational psychologists, students, counsellors, University management, policy makers, curriculum planners and future researchers. The results of this study pointed to the importance of artificial intelligence on psychological wellbeing of undergraduates irrespective of their gender.

One implication that can be drawn from the findings of the present study was that university counselling services should focus on artificial intelligence development, peer-focused interventions, provide training for mental health resources or professionals, collaborate with campus services, develop culturally sensitive interventions through artificial intelligence tools to improve undergraduate mental health.

CONCLUSION

This study x-rayed artificial intelligence as a predictor of psychological wellbeing of undergraduates. As observed from this study, it was concluded that artificial intelligence has a significant explanatory power over the psychological wellbeing of students. In that case, parents and significant others ought to spend time listening to students' concerns and giving advice to those currently dealing with difficult issues. Universities and mental health professionals can use these findings to develop targeted interventions promoting positive attitudes to artificial intelligence. By understanding the conclusions of this study, educators, policymakers, and mental health professionals can work together to promote undergraduate mental health and wellbeing.

Both male and female undergraduates have positive attitude towards artificial intelligence characterized by trust and shared activities, which predicted better psychological wellbeing. Similarly, the use of artificial intelligence was particularly important for both male and female undergraduates' mental health, which appeared as a significant predictor of psychological wellbeing.

RECOMMENDATIONS

1. In light of the foregoing, it is recommended that educators, future researchers and Universities should provide accessible artificial intelligence support services to promote ethical behaviour and provide a rich, interactive classroom environment with suitable motivational strategies as well as investigate its longitudinal effects. Policy makers should allocate resources for artificial intelligence tools that will take care of undergraduates' mental health.
2. Parents and guardians should encourage and support male and female undergraduates to participate in activities requiring artificial intelligence as well as foster open communication about mental health. Undergraduates using artificial intelligence should prioritize social connections, seek help when needed, engage in campus activities and practice self-care.

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