



INFLUENCE OF STUDENTS' ATTITUDES TOWARDS DIGITAL LEARNING ON PSYCHOLOGICAL WELL-BEING AND BEHAVIOURAL PATTERNS

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ABSTRACT

Digital learning has become an inevitable element in higher education and has been instrumental in affecting students' academic performance, psychological well-being, and behavioral pattern. This research paper attempts to investigate the impact of attitudes of students towards digital learning on their psychological well-being and behavior patterns. The study was designed in such a way that it used the quantitative research method whereby primary data were obtained from 150 respondents using a structured questionnaire on a five-point Likert scale. Data were analyzed through SPSS software using descriptive statistics, Pearson's correlation, and simple linear regression analysis. It is evident from the study results that students showed positive attitudes towards digital learning and that these attitudes have significant impacts on psychological well-being and behaviors. Simple linear regression analysis revealed that the attitudes of students towards digital learning had significant impacts on psychological well-being and behavioral patterns. The research paper concludes that positive attitudes towards digital learning improve students' psychological well-being and behavioral patterns.

Keywords: Digital Learning, Students' Attitudes, Psychological Well-being, Behavioural Patterns, Higher Education, Academic Engagement.

1. INTRODUCTION

The fast pace of digital technology development has radically changed the educational environment. As a result, digital learning became a part of contemporary education and is widely implemented in modern institutions. With the advent of online learning systems, virtual classrooms, mobile apps, learning management systems, and AI-driven educational tools, the process of acquiring knowledge has dramatically changed. The development of digital learning received an additional boost due to the outbreak of COVID-19 that led educational establishments around the world to incorporate technological tools into their processes. Even though there are many benefits of digital learning, there are also disadvantages of digital learning associated with psychological and behavioral issues that have to be investigated.

Students' attitude towards digital learning is important for the effectiveness of digital learning. Attitude means an opinion of a person about something that involves cognitive and emotional reactions as well as intention to act. In the case of positive attitude, people tend to be more motivated, involved, and open to new technology and innovations. On the contrary, a negative attitude could lead to lack of motivation and engagement, digital fatigue, anxiety, frustration, and unwillingness to use technology in education.

Psychological well-being is yet another important aspect that affects the academic experience of the students. It is associated with the emotional balance, mental health, resilience, life satisfaction, self-esteem, and coping skills of the individual. Although digital learning allows students to learn at their own pace and take control over their learning process, too much screen time, social isolation, stress from academics, information overload, and being constantly connected to the Internet might have a negative impact on students' psychological well-being. The students who face problems in terms of their psychological well-being might suffer from lack of concentration, stress, anxiety, emotional burnout, and poor academic results.

The behavioral patterns of learners have changed considerably since the advent of digital learning. The behavioral patterns of learners consist of study behavior, classroom involvement, learning behavior, self-regulation, time management, technology behavior, communication behavior, and collaboration behavior. Good attitudes towards digital learning can lead to disciplined study habits, involvement, independent learning, and responsible technology behavior. On the other hand, bad attitudes towards digital learning can lead to procrastination, dependence on technology, limited interaction, poor time management, and problematic online behaviors. Since the changes in the behavior will influence their academic achievements and personal development, it is necessary to look at these behavioral patterns with regard to digital learning.

The connection between the attitudes of students, their psychological well-being and behavior is complex and multidimensional. Psychological well-being can impact students' desire to use digital learning platforms; however, their behavior can either boost the use of technology-based education or impede it. In this case, schools must consider all these factors when implementing digital learning systems and providing psychological help for their students.

1.1. Students' Attitudes Towards Digital Learning, Psychological Well-being, and Behavioural Patterns

Attitudes of students towards digital learning have come out as an important determinant of the effectiveness of technology-assisted learning. The term attitude is the total evaluation by an individual towards the application of digital technologies in the learning process. Attitudes of students cover their perception of the usefulness, easy availability, and effectiveness of digital learning methods in helping them achieve their educational objectives. Positive attitudes towards digital learning lead to adoption of technological innovations and active participation in online learning processes. Negative attitudes may lead to technology-induced anxieties, demotivation, disengagement, dissatisfactions with online learning, and unwillingness to learn using digital educational tools. Given the increasing incorporation of digital technologies in education at higher learning institutions, attitudes of students towards such technologies have become very important.

Another dimension that should be considered is the psychological well-being of the students while they interact within the digital learning environment. Psychological well-being is defined as the state of emotional, mental and social well-being of the person. The components include self-esteem, emotional stability, resilience, satisfaction with life, stress tolerance, and coping with academic difficulties. Digital learning has several strengths such as flexibility, self-paced learning and variety of educational materials. At the same time, there are several factors which might cause stress, anxiety, emotional exhaustion and

decrease in psychological well-being of the students: long screen-time, lack of face-to-face communication, academic workload, digital burnout, and continuous use of the Internet. Students who have positive attitudes toward digital learning usually show higher self-confidence, less academic stress, and better adaptability to virtual learning. Thus, it is important to foster positive attitudes toward digital learning.

Behavioural patterns entail the manner in which students behave and conduct themselves in the process of participating in digital education. Examples of such patterns include study patterns, class participation, learning engagement, self-regulation, time management, communication with educators and fellow students, ethical use of technology, and collaborative learning among others. Students who display positive behaviour during the process of participating in digital learning are those who attend online classes regularly, manage their educational obligations well, follow disciplined study routines, interact actively when learning, and apply the technological learning tools appropriately. However, students who display negative behavioural patterns during this learning process include those who tend to procrastinate, manage their time poorly, engage less academically, have excessive use of technology for non-educational activities, and do not participate much in collaborative learning. It is important to understand the behavioural patterns of students because behaviour affects academic results.

1.2. Research Objectives

1. To examine students' attitudes towards digital learning.
2. To assess the psychological well-being of students engaged in digital learning.
3. To analyse the behavioural patterns of students in digital learning environments.
4. To investigate the influence of students' attitudes towards digital learning on their psychological well-being.
5. To determine the influence of students' attitudes towards digital learning on their behavioural patterns.

2. REVIEW OF LITERATURE

Mohd Bahar et al. (2026) performed a scoping review to analyze digital well-being of learners in higher education settings. In doing so, the study used the synthesis of previous researches to find out the variables affecting digital well-being of students in digital technology supported learning environment. The results showed that digital well-being is characterized by proper use of digital technology, digital literacy, institutional support and healthy digital learning behaviors. It was found that excessive screen time, digital fatigue and lack of technological support negatively impacted the psychological well-being and academic engagement of the students.

Babakhova et al. (2023) The psychological well-being of students in a digital educational setting was investigated. This study looked at how digital education impacted the emotional well-being, academic adjustment, and learning process of students. It was found that students' psychological well-being was affected by the nature of the digital educational settings, support from the institution, and interaction with instructors and peers. The study authors claimed that psychologically supportive digital education made it possible to have emotionally stable students, better motivated for learning, and more satisfied with their education.

Wang et al. (2021) investigated the association between digital competence and psychological well-being of university students amid the coronavirus disease 2019 outbreak in accordance with the Self-Determination Theory. The study showed that the level of digital competence in students was higher because those who possessed a high level of digital competence enjoyed better psychological well-being due to their confidence in the use of digital devices and adaptation to the online learning process. Additionally, it was shown that the satisfaction of competence, autonomy, and self-efficacy positively affected the emotional well-being of students.

Neagu and Vieriu (2025) investigated the relationship between digital engagement and the psychological well-being of students of technical universities. The purpose of the study was to assess the influence of digital engagement of the respondents on their psychological well-being and process of learning. It was determined that digital engagement significantly impacts positively the well-being of the students, providing academic confidence, satisfaction from learning and increased emotional resilience. Excessive and non-controllable digital engagement is linked with increased stress levels and digital exhaustion. The researchers underlined the importance of the balanced approach to the use of digital technology in education.

Gigantesco et al. (2019) conducted an international study that studied the preferences of middle school students in relation to interactive activities in the digital form that were intended to develop the psychological well-being and mental health of the students. It was revealed that the students preferred interactive and technology-based activities that stimulated interaction and participation. The study revealed that well-developed digital activities positively influenced the emotional well-being, motivation and class participation of the students. The researchers concluded that the introduction of interactive activities in education programs would help enhance psychological well-being of the students and healthy behaviour.

3. RESEARCH METHODOLOGY

This part will provide a brief description of the methodology that has been used in order to estimate the influence of the attitude of the students to digital learning on their psychological well-being and behaviour. This section will include the design of the research, sampling procedure, data collection instrument, variables employed in the research, reliability and validity of the measures used as well as statistical techniques used in the analysis of the data. This methodology was selected in order to ensure a systematic data collection and analysis.

3.1 Research Design

A quantitative research design, with a descriptive and explanatory methodology, has been utilized in the current study to explore the impact of students' attitude towards digital learning on their psychological well-being and behaviors. The use of descriptive methodology enabled the researchers to determine the current state of study variables, while an explanatory methodology helped to identify the predictive associations between study variables.

3.2 Population, Sample and Sampling Technique

Target population was composed of students pursuing education in higher institutions who frequently engaged in digital learning. Sample size consisted of 150 students who were picked using convenience sampling method. They were selected based on their availability and experience with digital learning environment.

3.3 Data Collection Instrument

The primary data was collected through a questionnaire that was divided into two parts. Part, one collected demographic data from the respondents, whereas part two was used to collect students' attitudes towards digital learning, psychological well-being, and behaviour patterns. All questions were measured on a five-point Likert scale from 1 (Strongly Disagree) to 5 (Strongly Agree).

3.4 Variables of the Study

The study included one independent variable and two dependent variables.

- Independent Variable: Students' Attitudes Towards Digital Learning
- Dependent Variable 1: Psychological Well-being
- Dependent Variable 2: Behavioural Patterns

The independent variable was examined to determine its influence on the two dependent variables.

3.5 Reliability and Validity

Cronbach's Alpha was used to measure the internal consistency of the survey, and scores above 0.70 were acceptable. The construct validity was determined using the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity. A KMO value above 0.70 and a significant Bartlett's Test result ($p < 0.05$) indicated that the data is suitable for statistics.

3.6 Data Analysis Techniques

The SPSS software package was used to analyse the data. Descriptive analysis was conducted through the use of frequency, percentage, mean, and standard deviation. Pearson correlation analysis was done to test the correlations between the variables and simple linear regression analysis was conducted to measure the effect of attitudes towards digital learning on psychological well-being and behaviour. Level of statistical significance was 5% ($p < 0.05$).

4. RESULTS AND DISCUSSION

The results of this study are provided in this part and are based on the analysis of data obtained from 150 respondents who attend higher education institutions. The obtained data were analyzed by means of SPSS. The use of descriptive statistics was applied to describe the characteristics of the population of the study and estimate the attitudes of students towards digital learning, psychological well-being, and behavior. The relationships between the variables were analyzed by means of Pearson's correlation analysis, while the influence of attitudes towards digital learning on psychological well-being and behavior was determined by means of simple linear regression analysis.

Table 1: Demographic Profile of Respondents (N = 150)

Variable	Category	Frequency	Percentage (%)
Gender	Male	72	48.0
	Female	78	52.0
Age (Years)	18–20	52	34.7
	21–23	69	46.0
	Above 23	29	19.3
Programme	Undergraduate	88	58.7
	Postgraduate	62	41.3
Daily Digital Learning	Less than 2 hours	28	18.7
	2–4 hours	77	51.3
	More than 4 hours	45	30.0

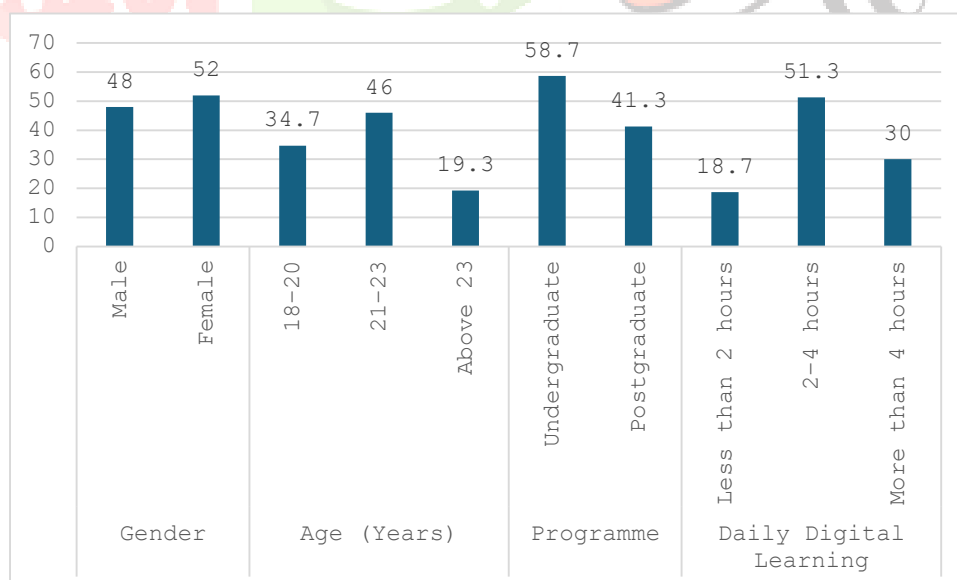
**Figure 1: Graphical presentation of Demographic Profile of Respondents**

Table 1 provides the demographic profile of the study participants. In total 150 participants participated in the study out of which 52.0% were females and 48.0% were males, signifying almost an even representation of both genders. Almost half of the participants (46.0%) belonged to the age group of 21–23 years, followed by 34.7% belonging to the age group of 18-20 years and 19.3% aged above 23 years. The majority (58.7%) of the participants were undergraduate students, whereas postgraduate students

formed 41.3% of the sample. As far as digital learning for a day is concerned, more than half of the respondents spent 2-4 hours per day on digital learning.

Table 2: Descriptive Statistics of the Study Variables

Variable	Mean	Standard Deviation
Students' Attitudes Towards Digital Learning	4.08	0.58
Psychological Well-being	3.91	0.61
Behavioural Patterns	3.97	0.56

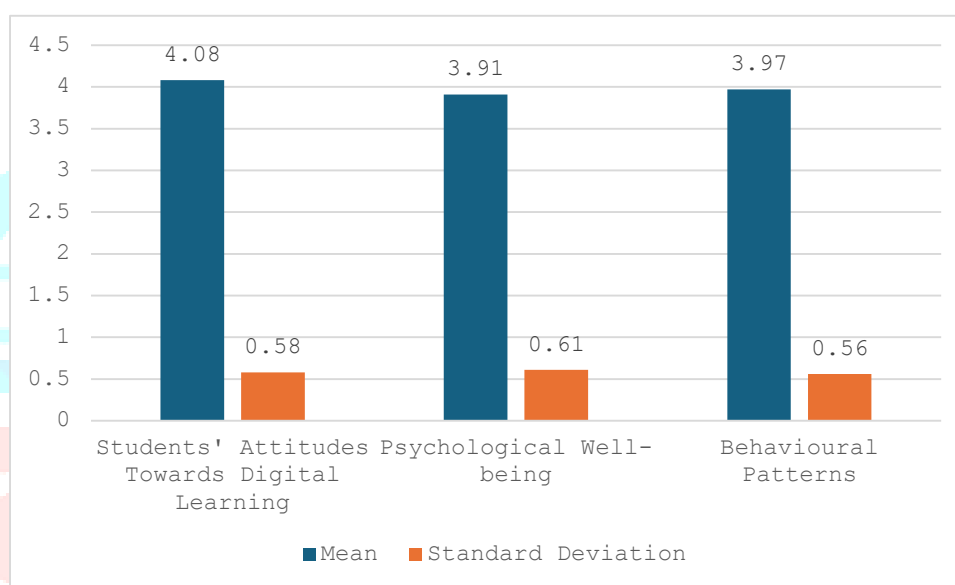


Figure 2: Graphical presentation of Descriptive Statistics of the Study Variables

Table 2 displays the descriptive statistics of the key variables of the study. It shows that the mean value of attitude towards digital learning is the highest among other factors ($M = 4.08$, $SD = 0.58$), which means that the respondents have good attitudes towards digital learning. The factor of psychological well-being has also shown a fairly high mean value ($M = 3.91$, $SD = 0.61$), which indicates that most students had adequate emotional and mental state when engaging in digital learning. As regards behavioural patterns, the mean value has also been fairly high ($M = 3.97$, $SD = 0.56$), which points to positive learning behaviour including proper learning habits, self-regulation, academic engagement, and use of digital technologies.

Table 3: Pearson Correlation Analysis among the Study Variables (N = 150)

Variables	1	2	3
1. Students' Attitudes Towards Digital Learning	1		
2. Psychological Well-being	0.682**	1	
3. Behavioural Patterns	0.741**	0.653**	1

Note: $p < 0.01$ (2-tailed).

Table 3 show the Pearson correlation coefficients among the research variables. The students' attitudes towards digital learning were found to be positively correlated with psychological well-being ($r = 0.682$, $p < 0.01$), meaning that students having a more favorable attitude towards digital learning had higher levels of psychological well-being. In addition, students' attitudes towards digital learning were positively and strongly correlated with behavior patterns ($r = 0.741$, $p < 0.01$). This means that the presence of positive attitudes is connected with healthier behavior patterns, self-regulation and involvement in studies. At the same time, psychological well-being had a positive correlation with behavior patterns ($r = 0.653$, $p < 0.01$). These results show the presence of correlations among the study variables.

Table 4: Regression Analysis Showing the Influence of Students' Attitudes Towards Digital Learning on Psychological Well-being**Model Summary**

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.682	0.465	0.462	0.449

ANOVA

Source	Sum of Squares	df	Mean Square	F	Sig.
Regression	26.314	1	26.314	130.41	0.000
Residual	29.857	148	0.202		
Total	56.171	149			

Coefficients

Predictor	Unstandardized B	Std. Error	Standardized Beta	t	Sig.
(Constant)	1.214	0.243	—	4.996	0.000
Students' Attitudes Towards Digital Learning	0.661	0.058	0.682	11.42	0.000

Table 4 provides the regression analysis which investigates the impact of the attitudes of students towards digital learning on psychological well-being. The correlation coefficient obtained from the regression analysis is $R = 0.682$ showing a positive relationship between the two variables. The coefficient of determination obtained from the regression analysis shows that 46.5% of variance in the psychological well-being can be explained by students' attitudes towards digital learning ($R^2 = 0.465$). The regression analysis is statistically significant ($F = 130.41$, $p < 0.001$). The standardized regression coefficient obtained is $\beta = 0.682$, $t = 11.42$, $p < 0.001$). This shows that the attitudes of students towards digital learning have a significant positive effect on psychological well-being. The findings indicate that students' attitudes towards digital learning have a significant positive influence on psychological well-being, thereby fulfilling the fourth research objective.

Table 5: Regression Analysis Showing the Influence of Students' Attitudes Towards Digital Learning on Behavioural Patterns

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.741	0.549	0.546	0.378

ANOVA

Source	Sum of Squares	df	Mean Square	F	Sig.
Regression	32.684	1	32.684	180.56	0.000
Residual	26.783	148	0.181		
Total	59.467	149			

Coefficients

Predictor	Unstandardized B	Std. Error	Standardized Beta	t	Sig.
(Constant)	0.963	0.218	—	4.418	0.000
Students' Attitudes Towards Digital Learning	0.737	0.055	0.741	13.44	0.000

Table 5 shows the regression analysis of the impact of students' attitude towards e-learning on behavioral patterns. This regression analysis revealed a very strong positive correlation ($R = 0.741$) between the independent variable and the dependent one. The coefficient of determination ($R^2 = 0.549$) reveals that 54.9% of the changes in students' behavioral patterns are caused by their attitudes towards e-learning. The regression analysis was found to be statistically significant ($F = 180.56$, $p < 0.001$). Moreover, the standard regression coefficient ($\beta = 0.741$, $t = 13.44$, $p < 0.001$) proves that students' attitude towards e-learning positively impacts the behavioral pattern. The findings demonstrate that students' attitudes towards digital learning significantly influence behavioural patterns, thereby addressing the fifth research objective.

5. CONCLUSION

This current research aimed at examining the effects of students' attitudes towards digital learning on their psychological well-being and behaviour among the higher education population. The findings indicated that most of the students exhibited positive attitudes towards digital learning which had significant relationships with their psychological well-being and healthy behaviour. The regression analysis results further showed that the students' attitude towards digital learning had a significant influence on their psychological well-being and behaviour showing that positive attitudes about digital learning promote good emotions and engagement in learning, self-regulation and responsible technology use. These findings highlight the need to provide an encouraging and learner-centered environment for the purpose of ensuring that digital learning is an enriching experience both academically and psychologically. This will involve strengthening of digital facilities, promoting effective digital learning and providing proper academic and psychological support to learners. Although the findings of the study provide great information about how students' attitudes towards digital learning affects their well-being and behaviour in higher learning, future studies can consider using larger samples and other variables which can affect the experiences of the learners.

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