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Research Article

## Impact Of 21<sup>st</sup> Century Pedagogical Approaches on Students' Mental Health and Well-Being

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### Abstract

The growing attention to students' mental health has led to increased scrutiny of the influence of education on psychological well-being. In modern education, teaching methods, classroom atmosphere and teacher-student interaction is considered to be the primary factors that affect students' emotional and mental states. The purpose of this research was to explore the influence of educational interventions on the mental health and well-being of higher education students. Descriptive correlational research methodology was employed. Using random sampling, the participants consisted of 200 postgraduate students of Burdwan University. Standardised tools were utilised to assess the 21st-century pedagogical approach and mental health and well-being. A descriptive, correlational analysis, regression and ANOVA were used for data analysis. From the results, it was found that the majority of the students had achieved a moderate level of 21st-century Pedagogical Approach and mental health. A strong positive correlation ( $r = 0.62, p < .01$ ) was observed between the Pedagogical Approaches and mental health. Regression analysis revealed that educational practices were a significant predictor of mental health ( $\beta = 0.62, p < 0.01$ ), accounting for 38% of the variance. Mental health varied significantly at different levels of educational practices according to ANOVA. The discussion emphasises that positive, student-focused Pedagogical Approaches promote students' psychological well-being, both in line with Self-Determination Theory and Ecological Systems Theory. This study infers that enhancing Pedagogical Approaches may contribute significantly to the mental health and holistic development of students. The results have implications for educators and policymakers to support the development of more inclusive and mentally supportive educational environments.

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**KEYWORDS:** 21st-century Pedagogical Approaches, Higher Education, Mental Health, Psychological Well-Being, Self-Determination Theory, Student-Centred Learning.

## 1. INTRODUCTION

In 21st century Education is not only a tool for academic growth but also a means to promote students' mental health and well-being. Recently, increasing rates of stress, anxiety and psychological problems among students, particularly that of university students, have become a matter of concern. Mental health has been defined as a positive state in which one can realize his or her own potential, cope with the normal stresses of life and work productively and fruitfully (Keyes, 2002). It has been suggested that education-related experiences at the level of teaching (e.g., teaching approaches, class atmosphere, assessment procedures and teacher–student interaction) are important determinants of students' psychological well-being while they are at school. Based on the above, self-determination theory (Deci and Ryan, 2000), which highlights the significance of meeting the students' needs of autonomy, competence and relatedness as a way to foster well-being and Bronfenbrenner's (1979) ecological systems theory, which draws attention to the significance of environmental systems (e.g., schools) for the development of the individual, comprise the theoretical basis of the current research. Encouraging an active learning environment with constructive feedback and positive teacher–student interactions can be a powerful influence on student mental health (Hattie, 2009). In contrast, inflexible, competitive, or unempathetic teaching might increase students' stress. There is accumulating evidence for the association of teaching strategies with the mental health. For example, Durlak et al. (2011) showed that within school-based social-emotional learning schemes there are moderate to large effects on students' psychological well-being. Renshaw et al. (2015) also found that positive school environments correlated positively with student well-being. Schonert-Reichl (2017) highlighted the significance of emotionally supportive classroom environments in fostering resilience and mental well-being in students. Yet, with a few exceptions, there is still a dearth of research in the context of Indian higher education, where the orientation has been towards cognitive and academic growth rather than the promotion of whole-person development. In India, escalating academic workload, competition and general lack of awareness in mental health have been causing concerns about students' well-being. Nevertheless, scant empirical research has been conducted on the impact of Pedagogical Approaches on the mental health of postgraduate students in Indian universities, more so that of a regional university like the University of Burdwan. Hence, in the current study, an attempt is made to fill this gap by investigating the correlation and effect of Pedagogical Approaches on students' mental health and well-being in the background of India. The implications of the research are substantial, considering it fulfils the pressing requirement to include mental health in education, could promote mental health/contributes to a more inclusive and supportive education system in India.

### 1.1 STATEMENT OF THE PROBLEM

Students at universities, especially Postgraduate, are prone to stress, panic and other mental health problems, brought on by an environment of academic strain and ruthless competition.

The effects of school on development can be seen in practices (e.g., teaching, curriculum, school climate, teacher–student interactions) whose influence on not only academic but also student psychological outcomes are well documented. But in the majority of teaching environments, students' mental well-being is given a fraction of the importance afforded to academic achievement. In addition, scant research is available in the higher education context in India that shows how Pedagogical Approaches can potentially affect students' mental health and well-being. Consequently, this research aims to examine the association and vulnerability factors of Pedagogical Approaches related to mental health and well-being of the post-graduate population.

### 1.2 SIGNIFICANCE OF THE STUDY

This study is important because it demonstrates that 21st-century pedagogical approaches have a significant impact on the mental health and well-being of students. With student psychological distress on the rise, an awareness of how teaching practices can influence educators in understanding more about their students and how to better support them is timely. The study adds to the existing literature as it empirically investigates the link between Pedagogical Approaches and mental health, more so in the context of Indian higher education. It additionally has practical implications for teachers, policy makers and educational institutions to consider mental health friendly practice within the system of education as a means to support students in their overall development and academic work.

### 1.3 OPERATIONAL DEFINITIONS OF TERMS

- I. **21st Century Pedagogical Approach:** 21st Century Pedagogical Approach is a term used for educational teaching methods in modern classrooms based on a student-centred learning principle that involves critical thinking, creativity, collaboration, communication, use of technology, learning by doing or experiential learning, which are supportive in nature to help students to achieve success not only academically, but also mentally and emotionally.
- II. **Mental health and well-being:** Encompasses students' emotional, psychological and social well-being, such as their competence regarding coping with stress, sustaining positive relationships and performing well, as understood through a standardised mental health index.
- III. **Postgraduate Students:** Students who are pursuing or who have pursued a postgraduate degree from universities.

### 1.4 OBJECTIVES OF THE STUDY

- I. To assess the level of Pedagogical Approaches perceived by students.
- II. To examine the level of students' mental health and well-being.
- III. To find out the relationship between Pedagogical Approaches and mental health.

- IV. To determine the impact of Pedagogical Approaches on students' mental health.
- V. To compare mental health across different levels of 21st-century Pedagogical Approaches.

### 1.5 HYPOTHESIS OF THE STUDY

#### **H<sub>0</sub> (Null Hypothesis):**

There is no significant relationship or impact of Pedagogical Approaches on students' mental health and well-being.

#### **H<sub>1</sub> (Alternative Hypothesis):**

There is a significant relationship and impact of Pedagogical Approaches on students' mental health and well-being.

## 2. MATERIAL AND METHOD

### 2.1 Research Design

This was a quantitative study with a descriptive correlational design, because it sought to investigate associations and predictive influences among variables, without any kind of manipulation.

### 2.2 Population and Sample

The study covers postgraduate students of the university of Burdwan. A random sample of 200 postgraduate students was taken. The sampling method is random sampling in order make the sample representative and also to minimize sampling bias.

### 2.3 Tools Used for Data Collection

Reliability and validity were guaranteed by using standardized tools:

- I. **Pedagogical Approaches Scale:** A standardized survey assessing teaching procedures, classroom organisation and teachers' assistance. This tool was chosen because of its proven reliability and validity in the field of education.
- II. **Mental Health and Well-Being Scale:** A validated measure of emotional, psychological and social well-being. A standardised tool was used for ensuring precise measurement and comparability with earlier research.

The application of standardised tools increases the objectivity, reliability and validity of the data. These measures have also been widely accepted by research, which supports reliable and valid measurement of constructs and thus helps to enhance the credibility of the findings.

### 2.4 Procedure of Data Collection

The data were collected by applying the questionnaires to students systematically. Appropriate instructions were given and the participants were assured of confidentiality in order to obtain truthful answers.

- i. Statistical Techniques Used
- ii. Data were analysed using:
- iii. Descriptive statistics (Mean, SD, Percentage)
- iv. Correlation analysis
- v. Regression analysis
- vi. ANOVA

These techniques were appropriate for examining relationships, predictive effects and group differences.

### 2.5 Ethical Considerations

The study was conducted in accordance with the standard ethical considers for the protection of the right and the welfare of the participants. Before data collection, all the postgraduate students were informed and consented to take part in the study explaining the purpose and nature of the study. It was a voluntary participation and the respondents were at liberty to discontinue at any point of time without any pressure. Personal identities were not revealed and data were used only for academic purpose so confidentiality and anonymity issues were strictly considered. The participants were told that their answers would be kept confidential and would not be used against them in their academic career. Also, no psychological harm took place and the data were honestly collected and reported, without any bias or manipulation.

## 3. RESULTS

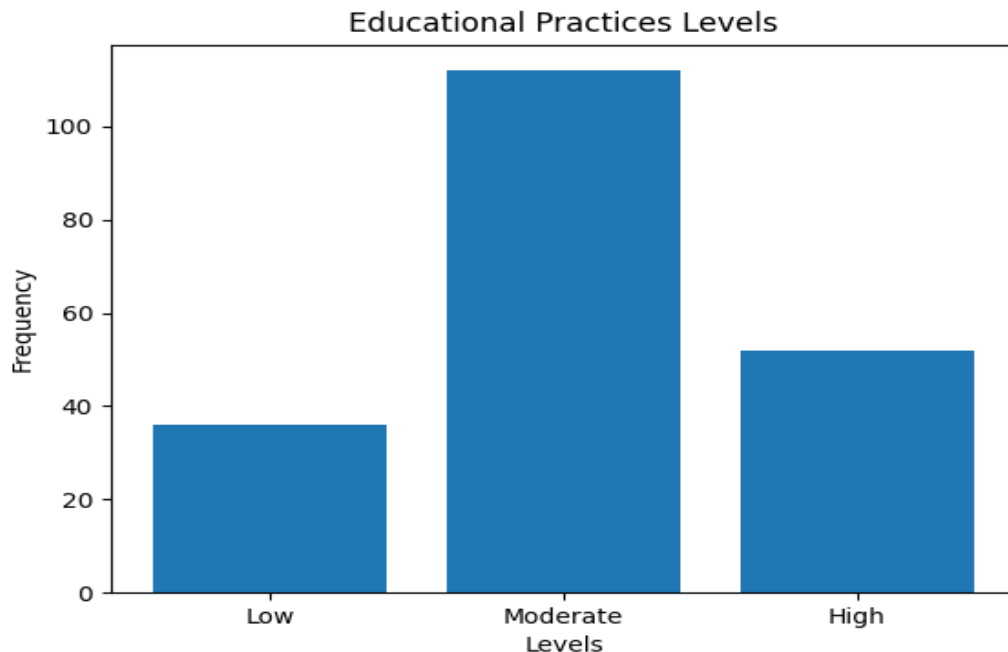
This Section presents the results and discusses the data analysis for the study on Influence of Pedagogical Approaches on Students' Mental Health Hook and Well-Being. Descriptive and inferential statistics (mean, standard deviation, percentage, correlation and regression) were used to analyse the data.

### 3.1 Level of Pedagogical Approaches Perceived by Students

This sub-section contains the frequency of students' views on Pedagogical Approaches in their teaching-learning environment.

**Table 1:** Level of Pedagogical Approaches (N = 200)

Level of 21st-century Pedagogical Approaches	Frequency (f)	Percentage (%)	Mean	SD (±)
Low	36	18.0%		
Moderate	112	56.0%	3.58	0.76
High	52	26.0%		
<b>Total</b>	<b>200</b>	<b>100%</b>		



**Figure-1** Bar Graph presents the distribution of students across different levels of 21st century Pedagogical Approaches.  
**Source:** Data compiled from a primary survey conducted by the researcher (2026)

**Findings:** The **Table-1 & Figure-1** shows that the 21st-century Pedagogical Approach was moderate in the opinion of most students (56%), high for 26% students and low for 18% students. The mean value of 3.58 indicates a slightly positive 21st-century Pedagogical Approach among students.

**Analysis:** The result that a 21st-century Pedagogical Approach had been rated at a moderate level by more than half of the students (56%) can be rationalised by numerous previous empirical studies in the educational field. Students have been found to often give “moderately positive” or “above average” ratings for teaching practices rather than extremely high or low ratings for these items of instruction. For example, Mukhalalati et al. (2024) revealed that students held a “more positive than negative” view of their learning environment, representing a neutral or moderate position rather than one of extreme satisfaction, similar to the studies included in this review. In the same vein, Shrestha et al. (2019) asserted that the students had a positive yet not excellent perception of the EE, all suggesting that there is room for improvement in all domains. More evidence can be drawn from the research on teaching quality, where the results showed that students considered instructional practices in the above average range to be very

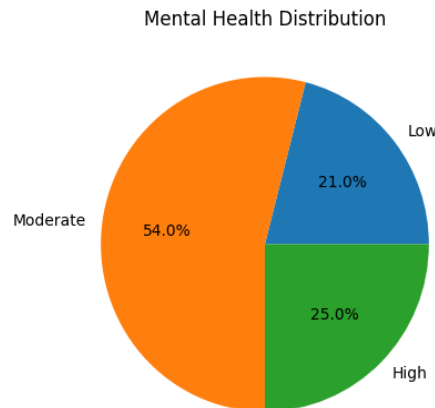
close to the moderate level of perception (Ahmad et al., 2023). This suggests that teaching is good but not excellent, so this may lead to the rating of ordinary. Furthermore, the existing literature highlights that students’ perceptions are influenced by a number of classroom components, including teacher support, communication and instructional techniques. These acceptable expectations are likely to differ from one culture to another and the results showed that they are somewhat different and quite near (Kamran et al., 2022). Furthermore, student perception has been established as a valid proxy for instructional quality and student learning, which gives further credence to these moderate results (Seidel & Shavelson, 2007; den Brok et al., 2004). Hence, the current result was not surprising (Mean = 3.58; moderate range) because it is in line with what has been reported in various previous research—that students on the whole consider their educational behaviour to be good, but not the best, implying that what they have been taught can be improved continuously.

### 3.2 Level of Students’ Mental Health and Well-Being

This section presents the proportion of students by their mental health and well-being status.

**Table 2:** Level of Mental Health and Well-Being (N = 200)

Level of Mental Health & Well-Being	Frequency (f)	Percentage (%)	Mean	SD (±)
Low	42	21.0%		
Moderate	108	54.0%	3.46	0.82
High	50	25.0%		
<b>Total</b>	<b>200</b>	<b>100%</b>		



**Figure 2:** Pie graph displays the distribution of students according to their levels of mental health and well-being  
**Source:** Data compiled from a primary survey conducted by the researcher (2026)

**Findings:** Mental health Well-being of overall students is evidently shown (Table-2 & Figure-2) majority was moderate (54%), 25% was high and 21% was low. An average of 3.46 suggests that students tend to have a relatively moderate level of mental health.

**Analysis:** The result, that most students perceived themselves as moderate in terms of mental health and well-being (Mean = 3.46) is in line with a large volume of research which shows that student populations are known to report average or moderate psychological well-being, not extremes of the continuum. For example, Corey L. M. Keyes (2002) proposed that mental health should be understood as a continuum from languishing to flourishing and noted that many people find themselves in the “moderately mentally healthy” category rather than at the poles. This supports the present finding where we found that most students did not have very high or very low well-being. Ed Diener et al., (2010) confirmed that students generally experience a moderate level of subjective well-being regardless of their context, experiencing influences of academic stress, social relations, living environment and requirement of the studies. This is consistent with the results of this study with moderate mental health making up the majority of the participants.

In the school setting, Renshaw Tyler L. et al. (2015) have indicated that although many students wrestle to get by in school, an even smaller segment reveals superior well-being; some also have diminished mental health as a result of stress and adjustment problems. This sequence almost identically reproduces the current findings (54% moderate, 25% high, 21% low).

In addition, Stewart-Brown et al. (2011) in the validation study of the Warwick-Edinburgh Mental Well-being Scale observed that mean scores were skewed towards mid-high levels, which they interpreted to mean that most people were in a balanced but not an optimal state of mental health. In summary, the current result is consistent with the previous research that

implies the students also have a moderate level of mental health in general which may indicate that he/she is functionally well but it could be better. The occurrence of 21% of students in the low category is also a reminder of the importance of providing mental health services to students in need.

### 3.3 Relationship Between Pedagogical Approaches and Mental Health

This subsection investigates the relationship between education methods and the mental health and well-being of students.

**Table 3:** Correlation Between Pedagogical Approaches and Mental Health (N = 200)

Variables	r- value	Significance (p-value)
Pedagogical Approaches & Mental Health	0.62	0.01

**Source:** Data compiled from a primary survey conducted by the researcher (2026)

**Findings:** There is Moderate Positive Association between Pedagogical Approaches and Students’ Mental Health The descriptive value of the correlation between the Pedagogical Approaches and students’ mental health is moderate positive ( $r = 0.62$ ), which is statistically meaningful at 0.01 level (Table - 3). Hence, such a result signifies that the enhancement of the Pedagogical Approaches will lead to the improvement of students’ mental health and well-being.

**Analysis:** The result of a moderate positive and significant pair wise correlation between students’ mental health and well-being and 21st century Pedagogical Approach ( $r = 0.62$ ,  $p < .01$ ) is supported by previous studies, which have repeatedly shown that caring and productive educational contexts positively influence students’ psychological well-being (e.g., Fredricks et al., 2004; Libbey, 2004). Using the term transformative learning, Roger T. Wang & Fred M. Newmann (2001) found that authentic and engaging pedagogical practices

better promote student engagement and his or her well-being. Their results imply that student academic and emotional growth can be promoted by a coherent sequence of instruction that is both meaningful and organized around the learning needs of the student, which they see as consistent with the current positive finding. Similarly, John Hattie (2009) in his meta-synthesis of over 800 meta-analyses, found quality teaching practices and feedback and positive teacher-student relationships among those with the highest effect sizes not only for achievement, but also student motivation and their emotional outcomes. It supports the finding of this study that positive change in 21st century Pedagogical Approach is associated with better outcomes for mental health. In addition, the positive impact is substantiated and extended by the research of Joseph A. Durlak et al. (2011), which shows that positive classroom management and school environment practices significantly impact students' social-emotional competencies and attitudes as well as their psychological well-being. Their meta-analysis substantiates the crucial role of educational contexts in mental health. Kimberly A. Schonert-Reichl (2017) also noted that students' mental health and resilience are bolstered in classrooms where teaching is warm, empathetic and inclusive. It accounts for the middle size of association in the current study. In addition, Robert Crosnoe (2011) stated positively that school climate and teacher support serve as buffers against student stress and mental health problems, which further proves that the significant relationship in the research was statistically found among these variables.

Thus, the present result is in line with the literature (Kaplan & Sadock, 2007), suggesting that effective teaching is greatly related to better mental health and well-being, although the relatively moderate magnitude ( $r = 0.62$ ) of the association may indicate that other components (e.g., family, peer effect, personal characteristics) may also relate to students' mental health.

### 3.4 Impact of Pedagogical Approaches on Mental Health (Regression Analysis)

This Section show the degree of prediction of mental well-being and health of students by 21st century Pedagogical Approaches.

**Table 4:** Regression Analysis of Pedagogical Approaches on Mental Health (N = 200)

Variables	R	R <sup>2</sup>	Beta ( $\beta$ )	t-value	p-value
21st century Pedagogical Approaches	0.62	0.38	0.62	10.84	0.01

**Source:** Data compiled from primary survey conducted by the researcher (2026)

**Findings:** The regression results (Table-4) show a strong prediction of students' mental health from Pedagogical

Approaches ( $\beta=0.62$ ,  $p < 0.01$ ). The  $R^2$  of 0.38 means that 38% of the variance of mental health is accounted for by 21st century Pedagogical Approach s.

**Analysis:** The result that Pedagogical Approaches were a strong predictor of students' mental health ( $\beta = 0.62$ ,  $p < .01$ ) with 38% of the variance explained ( $R^2 = 0.38$ ) converges with prior empirical and theoretical research suggesting that teaching-learning environments quality is one of the main predictors of students' psychological well-being. From a theoretical perspective, Pedagogical Approaches supporting autonomy, competence and relatedness have been hypothesized to promote well-being (Deci, E. L., & Ryan, R. M. (2000). When classrooms are organized in ways that support student play, give them meaningful feedback and foster positive teacher-student interactions, they lead to better mental health outcomes of students possibly explaining the strong predictive effect found in this study.

Empirically, Joseph A. Durlak et al. (2011) concluded that school-based educational and social-emotional learning programs particularly advance students' mental health, at least with moderate effect sizes. Their meta-analytic findings corroborate the view that structured Pedagogical Approaches account for an appreciable share of variance in psychological outcomes, in line with the  $R^2$  of 0.38 for the present study.

John Hattie (2009) also noted that good teaching practice, feedback and classroom climate also influence not only achievement but students' motivation and their emotions. This bolsters the predictive power ( $\beta = 0.62$ ) obtained in the current study.

Also, supportive and inclusive pedagogical practices are critical to the emotional resilience and mental health of students (Schonert-Reichl, 2017), indicating that educational settings serve as significant determinants of well-being.

The value of  $R^2 = 0.38$  suggests that a substantial proportion of the variance (38 %) in mental health can be accounted for by 21st century Pedagogical Approach s, however an even larger proportion of the variance (62 %) is explained by other factors (e.g., familial environment, relationships with peers, socio-economic status and personality of the individual). This is similar to ecological theories such as Urie Bronfenbrenner's (1979) Ecological Systems Theory which states that human development (e.g., mental health) is influenced by various systems within and outside the school setting.

The present result is in accordance with previous research, indicating that 21st century Pedagogical Approach is a relevant and meaningful predictor for students' mental health, albeit not a unique predictor.

### 3.5 Difference in Mental Health Based on Levels of Pedagogical Approach

This part considers the question if mental health is substantially different over the range of 21st century Pedagogical Approach.

**Table 5:** ANOVA Showing Differences in Mental Health Based on Pedagogical Approaches (N = 200)

Source of Variation	Sum of Squares	df	Mean Square	F-value	p-value
Between Groups	48.72	2	24.36	9.85	0.01
Within Groups	487.30	197	2.47		
<b>Total</b>	<b>536.02</b>	<b>199</b>			

Source: Data compiled from primary survey conducted by the researcher (2026)

**Findings:** The results of the ANOVA reveal a significant effect of 21st century Pedagogical Approach on students' mental health score ( $F = 9.85$ ,  $p < 0.01$ ) and students' mental health significantly differs across three different levels of educational practices (Table-5). This means that users who received superior 21st century Pedagogical Approach seem to have better mental well-being.

**Analysis:** The significant effect of Pedagogical Approaches on students' mental health ( $F = 9.85$ ,  $p < .01$ ) found in the present study is in line with previous research showing that differences in quality of teaching-learning environments result in significant differences in students' psychological well-being. Abnormalities such as These and many more can be found.) display Bronfenbrenner's (1979) Theoretical Perspective that the importance of the school environment is a powerful microsystem that effect students' development. Variations in classroom practices, teacher support and instructional climate, may therefore contribute to differences in mental health outcomes and this is consistent with the substantial group differences found in the current investigation.

For instance, Joseph A. Durlak et al. (2011) found that students who participated in effective education and social-emotional learning (SEL) programs were better psychologically adjusted than students in less supportive environments. Their results are consistent with the hypothesis that differences in Pedagogical Approaches correspond to significant differences in mental well-being. Also, Renshaw Tyler L. et al. (2015) suggest that students in more positive and engaging school climate report significantly higher well-being than students in less positive climates. This concurs with the current conclusion that mental health is better when educational practices are improved. Schonert-Reichl, Kimberly A. (2017) indicated that emotionally supportive classroom environments, promoting inclusivity and positive peer and teacher-student relations, are strongly related to students' mental health when compared to more negative counterparts and were therefore a determinant of significant group differences.

Therefore, the present ANOVA finding is consistent with previous research indicating that those students who receive better Pedagogical Approaches have significantly better mental health and well-being and those who receive poorer practices having a tendency to significantly report worse outcomes.

#### 4. DISCUSSION

This research investigated the impact of Pedagogical Approaches on the mental health and well-being of postgraduate students. The chapter is structured around objectives and based on empirical results, theoretical and research-based evidence.

#### Objective-I: To assess the level of Pedagogical Approaches perceived by students

The results showed that more than half of the students (56%) considered Pedagogical Approaches at a low level ( $M = 3.58$ ). This illustrates that 21st century Pedagogical Approach together with good teacher-student relationships provide at least a minimally supportive environment for student learning, but there is room for improvement. This suggests that pedagogical strategies, classroom climate, teacher-student relationships and teacher support were relatively positive, but could be enhanced further. This finding is consistent with previous research, which indicates that students tend to have somewhat positive, rather than overwhelmingly positive, opinions of the quality of their learning environments. For example, Mukhalalati et al. (2024) and Shrestha et al. (2019) reported that students consider the educational environment to be "satisfactory but there is room for improvement." Similarly, Ahmad et al. (2023) determined that the quality of teaching is perceived as "above average," reflecting a middle rank of perception.

In addition, Seidel and Shavelson (2007) and den Brok et al. (2004) have provided evidence that student perception reliably predicts instructional quality, lending additional support for this result. Thus, the present finding of a moderate perception can be considered a representation of a "golden mean" with respect to the educational environment, indicating that there is room for improvement.

#### Objective-II: To examine the level of students' mental health and well-being

The present study revealed that most of the students (54%) experienced average levels of mental health and well-being ( $M = 3.46$ ), suggesting that they were not mentally ill but most of them were not mentally well either.

This is closely aligned with the mental health continuum conceptualisation of Keyes (2002), which assumed the existence of a "moderately mentally healthy" state for the majority and inferred that a minority reside at the two extremes (flourishing and languishing). In line with this, Diener et al. (2010) found that due to academic and social pressures, students generally tend to report moderate levels of subjective well-being, irrespective of context.

Renshaw and colleagues (2015) also revealed that a small minority of students have high well-being, with a majority falling in the average range, suggesting difficulties with adjustment. Mental well-being scores tend also to be clustered around a moderate level (Stewart-Brown et al., 2011). There is a crying need to address institutional mental health intervention with 21% of students in low category. Therefore, the results indicate that strategies to improve wellbeing are needed, albeit students retain a functional wellbeing.

### **Objective-II: To find out the relationship between Pedagogical Approaches and mental health**

There was a significant moderate positive correlation between Pedagogical Approaches and students' mental health ( $r = 0.62$ ,  $p < .01$ ). This suggests that changes for the better in teaching practices correspond with better psychological well-being.

This finding is well supported by other studies. Effective teaching, feedback and teacher–student relationships have positive effects on academic and emotional outcomes (Hattie, 2009). Likewise, Durlak et al. emotionally supportive classrooms encourage resilience and mental health (Schonert-Reichl, 2017) and positive school experiences serve as protectors against psychological distress (Crosnoe, 2011). This is in line with Self-Determination Theory (Deci & Ryan, 2000) which states that satisfaction of the needs for autonomy, competence and relatedness promotes well-being. Thus, positive educational environments have a direct impact on students' mental health.

Yet, the moderate association implies that additional determinants (family, peers, socio-economic circumstances) are likely to be implicated, in line with wider developmental perspectives.

### **Objective-IV: To determine the impact of Pedagogical Approaches on students' mental health**

Regression analysis indicated that mental health was predicted by education practices ( $\beta = 0.62$ ,  $p < .01$ ) and accounted for 38% of the variance ( $R^2 = 0.38$ ) in mental health. This shows that education practice is an important predictor of students' psychological well-being.

This is in line with theoretical as well as empirical works. Deci and Ryan (2000) pointed out that environments conducive to autonomy and competence promote mental health. Durlak et al. (2011) provided evidence to support the influence of cognitive-based interventions with structured learning in psychological outcomes, explaining small to moderate amounts of variance. Hattie (2009) suggested that high quality teaching exerts powerful influences on motivation and on students' emotional development. In the same vein, Schonert-Reichl (2017) draws the conclusion that an inclusive and supportive pedagogy promotes resilience and well-being amongst learners. However, 62% of the variance unaccounted for ( $R^2$  value), which may be due to other factors outside the model. This is consistent with Ecological Systems Theory (Bronfenbrenner, 1979) that human development is influenced by various environmental systems. Therefore, while education practices are an important predictor of mental health, they do not completely determine mental health.

### **Objective-V: To compare mental health across different levels of 21st century Pedagogical Approach s**

The results of the ANOVA indicated a statistically significant difference in mental health among the 21st century Pedagogical Approach groups ( $F = 9.85$ ,  $p < .01$ ). Students who received more favourable Pedagogical Approaches had superior mental well-being.

Such a conclusion is supported by Bronfenbrenner's (1979) Ecological Systems Theory, which conceptualizes the school as a significant developmental agent. Hence, differences in classroom practices can result in different psychological consequences.

Durlak et al. (2011) provide evidence of the well-being of students in more supportive environments as being substantially higher than those in environments that are less supportive. Likewise, Renshaw et al. (2015) found greater well-being in positive school climates.

Hattie (2009) also draws attention to the fact that students' results will vary depending upon the quality of teaching and Schonert-Reichl (2017) states that emotional support is crucial in classrooms. Accordingly, the results confirm that differences in the quality of Pedagogical Approaches are associated with consequential differences in mental health, underscoring the importance of fostering a better pedagogical climate.

### **4.1 TESTING OF HYPOTHESIS**

The hypothesis was tested by correlational, regression and ANOVA analyses. The results showed a strong positive correlation ( $r = 0.62$ ,  $p < .01$ ) between Pedagogical Approaches and mental health, suggesting the two were meaningfully related. Moreover, regression analysis revealed that Pedagogical Approaches are a significant predictor of mental health ( $\beta = 0.62$ ,  $p < .01$ ), explaining 38% of the variance ( $R^2 = 0.38$ ). The results of ANOVAs also revealed a significant effect of levels of educational practices on mental health ( $F = 9.85$ ,  $p < .01$ ). Based on this evidence, the null hypothesis ( $H_0$ ) is rejected and the alternative hypothesis ( $H_1$ ) is accepted, indicating that Pedagogical Approaches affect students' mental health and well-being significantly. At a glance the results consistently showed:

- i. Significant correlation ( $r = 0.62$ ,  $p < .01$ )
- ii. Significant predictive effect ( $\beta = 0.62$ ,  $p < .01$ )
- iii. Significant group differences ( $F = 9.85$ ,  $p < .01$ )

### **4.2 EDUCATIONAL IMPLICATIONS OF THE STUDY**

The study results have important implications for educators, policy makers and the higher education community. Because 21st century Pedagogical Approach was observed to be a significant predictor of mental health outcomes for students, teaching strategies that are student-centered, inclusive and nurturing need to be developed and utilized. Teachers can enhance positive classroom climates by increasing engagement, offering positive feedback, and meeting the affective needs of students. Delivery of social-emotional learning (SEL) curricula, stress-reduction techniques and mental health information within the school setting can further contribute to the improvement of students' mental health. Teacher preparation could also focus on emotional intelligence, classroom management and nurturant pedagogy so that pedagogy does not undermine students' mental health. Universities need to provide counselling and mental health support, and those with low well-being particularly so.

### 4.3 LIMITATIONS AND FUTURE DIRECTIONS

Nevertheless, there are some limits to the present study. The sample was limited to 200 students from one particular context, so the generalizability of the results could be questioned. The self-reported nature of the assessments may also introduce bias in students' responses, as they may under or overestimate their perceptions and mental health conditions. Moreover, the investigation was concentrated on teaching and learning process mainly in information literacy without addressing other relevance including family background, socio-economic status and peer relationship. Future studies should involve bigger and more heterogeneous samples from various regions and educational stages to increase generalizability. Longitudinal investigations might further elucidate the nature of the relationship between pedagogical styles and mental health. Also, future research could adopt mixed-method approaches, integrating qualitative data, to better capture students' experiences Bandura, 2001. The inquiries could be added to a wide range of variables to study, for instance resilience, academic stress and digital learning environments.

### 5. CONCLUSION OF THE STUDY

The research concluded that educational practices are a powerful determinant of students' mental health and well-being. Results show that although students reported moderate levels of Pedagogical Approaches and mental health in general, there is a large and significant association between the two constructs. 21st century Pedagogical Approaches accounted for a significant proportion of the variance in mental health and it was a significant predictor of mental health. Findings from the current study highlight the value of fostering supportive, engaging and inclusive educational contexts at the school level to enhance students' psychological well-being. Improving the quality of 21st century Pedagogical Approach is a viable option for promoting student mental health, which in turn can contribute to students' overall development and success in higher education.

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