

Digital Realms and Mental Health: Examining the Influence of Online Learning Systems on Students

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Abstract: Due to the global pandemic, academics have moved online, provoking mixed reactions from students. Some perceive online learning as a challenge that might improve learning. Others view it as a bad pain that could impair their mental health. Understanding student well-being and its causes is essential for establishing future preparedness plans as mental health illnesses become more common. Student mental health is a major concern in teenage studies. This study examines how online learning influences students' mental health. Primary data surveys targeted ninth-through- through tenth-graders. The global pandemic has forced school closures, replacing traditional teaching with online learning. This expanded examination examines research findings and online students' mental health. Many online students are exhausted by emotional changes to new daily schedules, social disengagement, virtual learning settings, sleep disruptions, heavy workloads, and increased sadness, anxiety, nervousness, and stress. Online learning may harm students' physical, mental, emotional, and social health as mental prosperity issues become more widespread. This study highlights student difficulties and the need for comprehensive solutions to mitigate the psychological impact of online education. The growing social concern for students' psychological well-being requires critical study and action to determine the future of education.

Keywords: Psychological Well-Being; Online Learning; Mental Health; Mental Prosperity; Conventional Learning Environments; Educational Environments; Emotional Adjustments; Future of Education.

Received on: 13/03/2023, **Revised on:** 27/05/2023, **Accepted on:** 03/08/2023, **Published on:** 22/12/2023

Cite as: S. Silvia Priscila, E. Shalom Soji, N. Hossó, P. Paramasivan, and S. Suman Rajest, "Digital Realms and Mental Health: Examining the Influence of Online Learning Systems on Students," *FMDB Transactions on Sustainable Techno Learning.*, vol. 1, no. 3, pp. 156 –164, 2023.

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1. Introduction

In the wake of the Coronavirus outbreak, the educational landscape has undergone a profound transformation, with physical classrooms inaccessible to academicians and students. This circumstance has necessitated a comprehensive shift to digital platforms for all academic activities, encompassing class attendance and self-directed study. The educational approach facilitated through internet sources is commonly referred to as online education, a term that has become synonymous with the evolving nature of education in contemporary times [3]. This change depends on institutionalized structures and occurs across

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electronic devices linked to the global web, including computers, tablets, and other handheld devices [5]. Online learning can be conceptualized as disseminating ideas and information, simultaneously facilitating education delivery to a vast and diverse global student population [6]. Its inherent flexibility allows students to engage in learning at their convenience, breaking free from the constraints of traditional schedules. The instructional process, learning, and preparation occur through a web-based platform accessible on various devices, highlighting the growing prevalence of online education and the integration of e-content in K-10 education [8]. Despite the recognized effectiveness of face-to-face engagement in traditional classrooms, opting for an online course offers numerous advantages, notably in convenience and cost-effectiveness [10]. The widespread availability of internet connections empowers individuals to explore subjects beyond conventional textbooks and stay informed about global events [11].

However, as with any transformative shift, online learning has challenges. One of the primary concerns revolves around the theoretical nature of the information delivered through digital channels, often creating a disparity when applying acquired knowledge in practical scenarios [12]. The consistent challenge of technological reliability adds complexity, with connectivity issues sometimes hindering students' ability to seamlessly follow lectures or engage in interactive courses [13]. The emphasis on informational content over practical application can limit students' hands-on learning experiences, given the absence of physical classrooms with teachers and peers, potentially leading to distractions and interruptions that impede a focused understanding of the material [14]. Furthermore, the nature of online learning environments can exacerbate isolation from society and hinder students' ability to develop interpersonal and communicative abilities [15].

Prioritizing students' psychological well-being is crucial within the context of online learning. Mental health disorders are increasingly prevalent among students, a trend further exacerbated by prolonged screen time associated with virtual classes. Adolescents may experience increased tiredness, disinterest, anxiety, delays, a lack of time management, and social exclusion, all of which can contribute to a lack of communication ability [18]. The pressure to meet grade requirements, assimilate extensive information, and manage time effectively has been recognized as a significant source of stress [17]. The swift adaptation necessitated by the Coronavirus has intensified this stress, disrupting the continuity of online schooling. The general challenges during this phase result from the body and brain reacting to danger, fear, and unfamiliar conditions [19].

The vast range of answers students have given to online learning reflects the unique nature of each experience. Some see it as an opportunity that improves their ability to learn and proficiency, and they value the flexibility and chances it provides [20]. On the other hand, some view it as an adverse stressor that could jeopardize their mental well-being. They list technical problems, a shortage of interpersonal communication, and trouble adjusting to a fresh academic environment [34].

In the age of digital learning, depression appears to be a common psychological issue that students deal with; depression, which has a serious influence on an individual's capacity to function, is caused by a variety of triggers, including missed deadlines, personal losses, unfulfilled objectives, feelings of worthlessness, and intense stress [21]. Depression manifests itself as a complicated array of ethical and physical difficulties. The consequences may include feelings of loneliness, misery, a loss of interest in daily routines, and even thoughts of self-harm [22].

Additionally, anxiety is strongly associated with undesirable behaviour in students, such as eating disorders, social distancing, increased stress that exacerbates anxiety, weakened perceptions of oneself, difficulties with relationships, separation, and other signs of decreased psychological well-being [26]. As the education landscape navigates the uncharted waters of online learning, it becomes imperative to acknowledge the intricate interplay between the digital realm and students' mental well-being. A holistic approach to education must prioritize academic excellence and psychological flourishing, fostering an environment where students can thrive emotionally and intellectually [24].

Overall, the transition to online learning after the Coronavirus outbreak represents a significant paradigm shift in education [27]. The advantages of flexibility and accessibility are evident, yet practical and psychological challenges underscore the need for a nuanced and comprehensive approach [28]. As the digital landscape continues to evolve, educational institutions, policymakers, and stakeholders must address the multifaceted nature of online learning, ensuring that it facilitates academic excellence and promotes students' psychological well-being and holistic development [29]. In doing so, a balanced and resilient education system can emerge, capable of navigating the challenges and opportunities presented by the dynamic world of online learning.

1.1. Factors of Psychological Wellbeing (Carol Ryff)

As conceptualized by Carol Ryff, psychological well-being encompasses various factors that contribute to an individual's overall mental health. Each factor shapes an individual's perspective, relationships, and sense of purpose. Let's delve deeper into these dimensions:

Self-acceptance: Self-acceptance involves acknowledging one's strengths and flaws. It is typified by upholding a positive view of oneself, providing an honest assessment of one's strengths and value as a whole, and discovering accomplishing flaws. It emphasizes learning from past decisions without dwelling on them [30].

Environmental Mastery: This dimension reflects an individual's ability to navigate and control their environment effectively. It includes the capacity to make choices that align with personal goals, utilizing both physical and mental actions [31]. Environmental mastery involves managing circumstances, creating opportunities, and being aware of one's strengths and weaknesses [32].

Positive Relations with Others: Building meaningful and supportive relationships is crucial for psychological well-being. This factor encompasses empathy, closeness, friendship, and the ability to establish enduring social connections. Positive relations contribute significantly to an individual's overall life satisfaction [33].

Personal Growth: Personal growth involves a continuous commitment to self-development, embracing new experiences, and recognizing positive changes in behavior and self over time. It highlights the importance of lifelong learning and personal evolution [36].

Purpose in Life: A strong sense of purpose and a belief that life holds meaning is vital for psychological well-being. This involves setting and pursuing meaningful goals, establishing a sense of direction, and finding intrinsic value in one's journey [37].

Autonomy refers to an individual's independence and control over their behaviour despite external challenges. It emphasizes maintaining one's skills and competencies across various social settings, fostering a sense of self-direction [38].

Issues including low motivation, low self-efficacy, and low intellectual engagement have become major obstacles to online learning. Students' willingness and ability to take on the learning load have been impacted. The epidemic-induced disruptions decreased attention and motivation and increased difficulty in attending classes and studying.

Research conducted by Rajab et al. [25] identified these challenges and highlighted concerns and anxiety associated with the shift to online learning. Students faced heightened stress levels compared to the general population due to financial concerns, daily life and education disruptions, reduced social interactions, and travel restrictions [39].

According to research by Odriozola-González et al. [35], a sizable portion of young learners displayed signs of anxiety, depression, and stressful situations throughout the global epidemic. These findings underscore the critical need to address students' mental health, as untreated issues can have detrimental effects on social relationships, productivity, and academic achievement.

This paper explores students' experiences regarding mental health during the pandemic, shedding light on their psychological well-being status and providing insights for effective support mechanisms [40].

In addition to the above discussion, it's essential to recognize the dynamic interplay between psychological well-being factors and how they are influenced by external factors such as global pandemics, societal changes, and educational disruptions. The COVID-19 pandemic has brought these aspects into sharper focus, revealing the vulnerabilities and strengths within individuals as they navigate unprecedented challenges [42].

The factor of Self-Acceptance, for instance, becomes even more critical during times of crisis. The ability to acknowledge and appreciate one's strengths and weaknesses can serve as a buffer against the uncertainties brought about by the pandemic. Individuals with a positive outlook on themselves may be more resilient in facing adversity, adapting to changes, and making informed decisions.

Environmental Mastery takes on a new dimension when traditional structures are disrupted. The shift to online learning, remote work, and social distancing has reshaped the environment in which individuals operate. Those with a high level of environmental mastery can better navigate these changes, making effective choices in their personal and academic lives.

Positive Relations with Others become challenging when physical interactions are limited. The pandemic has tested individuals' ability to maintain meaningful connections despite the barriers imposed by social distancing measures. The capacity for empathy and establishing supportive relationships has become crucial to maintaining mental health.

The dimension of Personal Growth is particularly relevant in the context of the pandemic-induced changes. Individuals open to new experiences and seeing personal development as a lifelong journey may find adapting to the evolving circumstances easier. Embracing change and viewing challenges as opportunities for growth can contribute positively to mental wellbeing.

Having a Purpose in Life is a stabilizing force during times of uncertainty. The pandemic has prompted individuals to reevaluate their goals and find new meaning in their pursuits. Those with a strong sense of purpose may navigate the disruptions more effectively, maintaining a sense of direction and motivation.

Autonomy, the ability to control one's behaviour despite external challenges, has become crucial in coping with the pandemic's effects. The shift to online learning and remote work requires individuals to exercise a high degree of autonomy in managing their schedules and tasks. Those who can maintain a sense of control may experience lower levels of stress and anxiety.

While these aspects of psychological health are vital, it's critical to recognise the difficulties that have emerged due to the shift to online learning. The lack of motivation, self-efficacy, and cognitive engagement mentioned earlier point to the practical difficulties students face in maintaining their mental health during these unprecedented times.

The educational landscape has undergone a rapid transformation, and the challenges identified in the literature review indicate the need for a comprehensive approach to address students' mental health in online learning environments.

Moreover, understanding students' unique psychological challenges during the pandemic is imperative for designing effective interventions. The existing research indicates that the mental health implications of online learning are multifaceted, encompassing not only the academic stressors but also the broader socio-economic and environmental factors.

Students' psychological well-being is intricately linked to their ability to adapt to new learning modalities. The stressors identified, such as financial concerns, disruptions in daily routines, and decreased social interactions, highlight the need for targeted interventions that address the academic and non-academic aspects of students' lives.

In conclusion, the psychological well-being factors outlined by Carol Ryff provide a comprehensive framework for understanding individual resilience and adaptability during challenging times. The COVID-19 pandemic has acted as a stress test for these factors, revealing both the strengths and vulnerabilities within individuals and educational systems.

As educational institutions continue to navigate the uncertainties of the ongoing pandemic, prioritizing students' mental health is paramount. This involves addressing the immediate challenges of online learning and fostering a supportive environment that promotes psychological well-being. Recognizing these factors' interconnectedness and tailoring interventions to meet the specific needs of students, educators, and policymakers can contribute to creating a resilient and mentally healthy educational community.

This expanded discussion explores the factors influencing psychological well-being during the pandemic, offering insights into the complex interplay between individual characteristics and external challenges. The overarching goal is to contribute to a holistic understanding of students' experiences and inform targeted strategies for promoting psychological resilience and well-being in the evolving education landscape.

2. Review of Literature

Psychological well-being has gained extensive interest recently, often cited as a societal need in government policies worldwide [16]. However, the interpretation of well-being can vary significantly based on one's professional and personal perspective, leading to diverse implications and connotations. Pandemics throughout history have consistently brought about challenges to psychological well-being.

For instance, the 2009-2010 H1N1 flu pandemic in the United States of America resulted in feelings of weakness, social shame, stress, and loneliness. People experienced fear, anxiety, and isolation, contributing to heightened levels of stress. Societal aspects were impacted, with communities facing depression and loneliness during the pandemic. Individuals grappled with confusion, anxiety, and increased risky behaviors due to a pervasive sense of vulnerability [1].

The current COVID-19 pandemic has significantly affected the psychological well-being of individuals, demanding attention from concerned authorities to address the mental health challenges stemming from the current situation [2]. The perception of this situation plays a pivotal role in mental well-being. The pandemic has induced stress and anxiety due to the rapid shift to online platforms, uncertainty about the future, economic repercussions, doubts about the adequacy of disease prevention, and the availability of healthcare facilities [2]. Stress has been shown to influence unhealthy lifestyles, thereby increasing the risk of COVID-19 infection. Stress and anxiety responses have given rise to socially disruptive behaviors, such as panic buying and overcrowding at stores and healthcare facilities, negatively affecting healthcare services.

While online learning is a promising alternative to traditional schooling, students often view it negatively. Researchers have found that students tend to become tired of online learning, especially after the initial weeks of transitioning to a home-based learning environment. The financial burden on students with low-income parents, who need to invest more to access online learning, contributes to anxiety. Mood swings occur due to the overwhelming number of assignments, which students perceive as burdensome. Students experience anxieties and stress due to the psychological stress of education in an online environment. When faced with overwhelming tasks, limited resources, and connectivity problems, some students use social media to vent their frustrations about online education [4].

If teachers and students prepare well enough, they can both profit from the success of online learning. Several strategies can be used to keep students from becoming bored with the abundance of assignments, including tests, resources, online videos, and instructional materials. It is imperative to recognize, nevertheless, that students and their parents experience mental wellness concerns as well. In order to attain optimal mental health, the strategy should seek to relieve people of these problems, return them to a normal state, and promote optimism.

According to studies on stress, dissatisfaction, and anxiety among American students, kids from lower-income families are more likely to experience psychological disorders. The sudden shift to online platforms due to the pandemic was chaotic for many, raising concerns about achieving passing grades in examinations. Many students perceived the closure of schools and universities in the United States of America for the academic year as a setback, impacting their academic progress. While students from prestigious institutions like Harvard may be better equipped to handle the financial and academic challenges of a pandemic-induced closure, many students are ill-prepared to face such a situation. Limited internet connectivity for online classes further exacerbates the challenges. In India, as well, all academic institutions have been closed, leading to an increase in stress, frustration, anxiety, and feelings of worthlessness among students.

Adolescence is a crucial time filled with changes and difficulties that can get people into trouble and influence their choices later in life. It's a period of getting ready for adulthood and helping teens move towards a brighter future requires a knowledge of their well-being and the elements that influence it [7].

While explores of the benefits of young psychological health have been few, they do acknowledge the importance of teenage mental health. The literature study we conducted uncovered a dearth of studies that explicitly addressed the psychological health of students when they are learning online. Most previous studies have been on how severe stress-related conditions affect society. Thus, this essay aims to evaluate the strain, annoyance, despair, stress, and fear that students have been feeling as a result of the online learning epidemic while clarifying the underlying causes of these mental health issues.

3. Methodology

This study is grounded in primary data, utilizing a questionnaire meticulously designed for easy response accessibility via students' devices. There are 27 observations in the survey, which were thoughtfully created with mental health and academic difficulties in mind. The students scored every proposition from strongly disagree to agree on a 5-point rating system. They could select the scale that most accurately represented their knowledge. Four free-response queries were also included for more in-depth information on their online learning experiences. With the help of the academic heads of the schools, the questionnaire was distributed to 9–10 students from Chennai. Regarding the study, 162 students in all supplied detailed information.

To ensure the reliability of the questionnaire, a Cronbach's alpha test was conducted, affirming its validity and reliability in measuring dimensions such as depression, anxiety, stress, tiredness, and psychological distress among students (Table 1).

Table 1: Reliability

Variables	Description	Value	Internal Consistency
K	No. of items	27	
$\sum s^2y$	Sum of the item variance	0.05	

s^2x	Variance of the total score	133.1	
a	Cronbach's alpha	1.01	Excellent

Cronbach's Alpha Measure of Internal Accuracy has been used to illustrate the dependability of 26 questions on a 5-point Likert Scale.

Ethical Authorization: Taking ethical considerations into account, permission was granted by the principals of both schools to administer this survey. Pupils in grades 9 through 10 willingly participated, and the survey was classified to guarantee privacy and confidentiality [43].

4. Data Analysis

Descriptive statistics (mean, t-test: Two-Sample Assuming Equal Variances) were used to encode and analyze quantitative data after it was imported into Excel. The test has four open-ended questions and 26 statements, divided into four categories: general well-being, worry, despair, and prosperity. The instrument provides a comprehensive picture of psychological well-being by accounting for various variables, allowing for a total score ranging from 26 to 130 and individual subscale scores.

5. Findings

The paper explores students' mental health prosperity in the online learning platform, focusing on issues faced in the virtual schooling setup. Participants responded to questions concerning online learning problems, teacher attentiveness, expression of confidence during online classes, happiness during online classes, feelings of sadness due to pacing issues, stress from numerous assignments, and irritation during online classes.

Students' Psychological Well-Being: Students were categorized into poor and outstanding groups according to the aggregate score from 26 claims. Most of the student's psychological well-being was classified as "high". Sub-dimensions, including the sensation of being taken care of, isolation, stress, feeling down, and good mental health and discipline, showed that most students fell between 43.7 and 82.2, reflecting rather high levels of psychological good-being difficulties among students.

To evaluate the psychological well-being of learners in classes 9–10, the formula (mean, t-Test: Two-Sample Based on Equal Variances) was carried out in Excel (Table 2).

Table 2: t-Test: Two-Sample Assuming Equal Variances

	Class 9-10
Mean	64.81
Variance	114.71
Observations	61
Pooled Variance	123.65
Hypothesized Mean Difference	0
Df	152
t Stat	0.31
P(T<=t) one-tail	0.32
t Critical one-tail	1.61
P(T<=t) two-tail	0.72
t Critical two-tail	1.93

The findings suggest that there is no statistically significant disparity in the psychological well-being of participants across both groups during online classes, as evidenced by a two-tailed t-test yielding a p-value surpassing the 0.05 threshold for significance. Consequently, Class 9-10 are categorized as experiencing high psychological well-being concerns. This implies that, despite potential differences in academic levels, both groups encounter comparable challenges or experiences related to their psychological well-being during online classes.

The absence of a substantial statistical difference underscores the shared nature of factors influencing students' psychological well-being in both classes. It is important to note that while statistical analyses provide valuable insights, a deeper understanding could be gained by incorporating qualitative data or specific details regarding the nature of psychological well-being issues.

This conclusion underscores the urgency of addressing psychological well-being challenges within the educational setting, particularly in online classes where unique stressors may contribute to similar concerns across different academic stages.

6. Discussion

Students in this investigation had a large amount of high psychological well-being difficulties, according to the data analysis. In particular, stress, anxiety, despair, and feelings of isolation are common among students. Previous studies have also found that students had higher than average levels of stress, anxiety, and depression [4]; [23]; [41].

There were no discernible group differences between Class 9-10 in terms of stress, anxiety, depression, positive prosperity, or general psychological well-being. Every class had high levels of anxiety, and every student had significant problems with their psychological health. This may be explained by the psychological and behavioral imbalances brought on by current social and academic problems, which raise the risk of stress, anxiety, and depression [9].

Psychological discomfort is a sign of underlying lethargy and boredom that pupils experience due to different social circumstances. Social isolation and limitations on leaving the house contribute to the rise in boredom. Since social interaction is absent, students who are preoccupied with finishing assignments can become depressed and anxious. Due to its reliance on digital devices for communication, online learning lacks non-verbal cues, which might lead to student tiredness.

Almost two-fifths of the population under study suffered from typical mental health conditions such as stress, anxiety, depression, and loneliness, which greatly increased the total health burden [9]. Mood swings, changes in everyday routines, and abnormalities in academic pursuits are all signs of emotional influence on psychological well-being. Pupils express unhappiness with online learning and blame disruptions on too many tasks.

Getting enough sleep is essential for mental clarity; using digital gadgets before bed can interfere with that. According to their reports, assignments caused students to study at night, leading to serious sleep disruptions. While getting enough sleep improves learning and memory, too little sleep harms well-being.

Because online learning reduces in-person interactions, it results in incorrect verbal and nonverbal communication, a lack of social connection, and disruptions to the learning process. Pupils lament the difficulties they have learning and the absence of social support, which lessens the effectiveness of their studies. Students try to engage with teachers to lessen disruptions, raising concerns about anxiety, exam stress, and challenges meeting curriculum requirements.

7. Conclusion and Recommendation

The influence of studying online on students' psychological health and the academic difficulties students encounter in Tamil Nadu, India, are highlighted in this research. Online learning provides advantages, but it also makes school-age youngsters more anxious, lonely, and depressed. The results show how online learning experiences affect students' psychological health, showing signs of weariness and various difficulties, such as behavioral shifts, social disengagement, and unfamiliar virtual learning environments. The abrupt shift to online learning significantly affects students' psychological well-being, necessitating support from society, schools, and families. Encouraging healthy discussions between parents and children may foster positive psychological well-being. Schools are recommended to collaborate with parents to offer psychological assistance, with therapists and counselors helping overcome the effects of online learning. According to the investigation, learners who learn online have become more confined, which has resulted in problems with anxiety, depression, stressful situations, and optimistic prosperity, as well as general psychological well-being. Nevertheless, the study examines a crucial result with restrictions. Only students in classes 9 through 10 were included in the target populations; however, future studies might use a longitudinal design that includes students in all courses. One potential constraint of this study is the analytical approach's simplicity. It is recommended that future research employ a more comprehensive sample size and investigate various approaches and solutions to effectively address the influence of online education on students' psychological well-being.

Acknowledgment: The support of the Bharath Institute of Higher Education and Research, the University of Physical Education and Sports Sciences, and Dhaanish Ahmed College of Engineering are highly appreciated.

Data Availability Statement: This research contains data related to multicultural education and diagnostic information profiling preliminary findings.

Funding Statement: No funding has been obtained to help prepare this manuscript and research work.

Conflicts of Interest Statement: No conflicts of interest have been declared by the author(s). Citations and references are mentioned in the information used.

Ethics and Consent Statement: The consent has been obtained from the colleges during data collection and has received ethical approval and participant consent

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