

ANALYSING THE IMPACT OF STUDENT HEALTH POST COVID-19 PANDEMIC AND PROVIDING A SOLUTION USING DIGITAL TECHNOLOGIES

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ABSTRACT

COVID-19 has created enormous uncertainty into important parts of national and global society, including schools and institutions. This uncertainty had halted the normal functioning of students. For example, it is unclear how the institute's shutdown in Spring 2022 affected students' academic performance. Similarly, the quick transition to virtual learning in academic years will continue to have an impact on academic performance.

Despite the uncertainties, there is a growing consensus that the lockdown and school and college closures caused by COVID-19 harmfully influenced students' academics, mental health, and physical health. This research study examines how students in schools and colleges feel post lockdown in India. This study also highlights how digital technologies and their applications is improving the educational process.

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KEYWORDS

pandemic, lockdown, physical health, mental health, academics, digital technologies.

INTRODUCTION

Children already have been dealing with the mental and physical health issues where they have been vulnerable [1]. Emerging uncertainty due to COVID-19 has paused the India's functioning. Students, educators, and parents

have faced numerous problems for in relation to COVID-19. In this research, there has been learning about the broad influence of COVID-19 amongst students and what schoolchildren have been feeling about effects of this changing scenario for the mental health, physical health

and academics of students in schools at undergraduate and post-graduate levels [2]. To research the overall evaluation of this impact a questionnaire method has been used to obtain first-hand data. Data collection is divided into three major sections covering all the responses [3].

Deferred board assessments have caused tension and disturbance of the circumstance of clinical rotations; however, this may, at last, change the way the evaluations are regulated. The COVID-19 pandemic was declared by WHO on January 30. During the pandemic it became difficult in the Indian states for travel across borders and economies were affected due to the lockdown. School and colleges were closed which affected students. A review of these situations enabled the following research questions to be framed:

RQ1: How was student health and their studies were impacted post lockdown?

RQ2: How mental health of students were impacted due to the lockdown?

RQ3: How will the students feel that their academics being affected by the closures of schools and colleges and adopting virtual learning platforms?

A variety of learning management systems (LMS) have emerged as a result of the use of digital technology in education. These LMSs have fostered virtual laboratories in which an educator may engage with undergraduates in real-time, segment his materials, present his speech, evaluate students' learning, gather comments, and respond to students' questions. Students have access to innumerable internet resources thanks to technology, which encourages them to conduct research and so fosters their independence. Additionally, it facilitates learning by making topics more consumable, for instance through instructional videos.

LITERATURE REVIEW

In a search of relevant articles, we accessed the Scopus database and using keywords ("Post COVID-19", "Student Health", "Digital Technologies", "Digitalization"). The search strings that were used for "Title, abstract and keywords". The search was limited to the subject area of business, accounting and management and document types included - articles, reviews, and articles in the press were selected. Finally, authors located only 39 papers related to the study area.

During the pandemic it was suggested to have online based learning due to the spread of the virus. The students were allowed to have the experience of experiential learning which enhanced their knowledge [4]. This framework shift to the virtual climate and settings have been testing however, it may permit more intuitive than customary readout meetings or pedantic talks. The review was directed to survey the mental state young people after the COVID-19 infection occurred in China a fortnight later and also research factors influencing the emotional well-being among gatherings of young people [5].

The review explores the effect of COVID-19 on student health. Information was gathered by organized surveys directed to 200 respondents, including educators, understudies, guardians, and policymakers from various nations. The disruptions of COVID-19 have impacted the human lives. [6].

This paper seeks to understand the effect of COVID-19 on the student. The mental state of the student was affected due to the pandemic as they had to study online, they were not able to meet their friends, outdoor games they were not able to play. All these had a severe impact on the health of the students as we know online learning cannot provide the same environment [7].

There has been a direct link of emotions with the offline studies for the students [8]. This paper investigates the consequences of this overall peculiarity on explicit advancements and how this may further develop our lives. The review was attempted to look at the outcomes of weaknesses, hazards, and the impact of preventive practices related to the COVID-19 pandemic.

RESEARCH HYPOTHESIS

Schools and colleges started to utilize online video conferencing applications for training to relieve the impacts of a post lockdown (such as the Zoom conferencing system). Because of the lockdown, every open space, including and not restricted to parks, films, recreation centers, and eateries, were likewise shut. There has been impact on the mental health of the students due to the lockdown measures [9]. Many students felt they can't go back to the schools and colleges. Given these situations the following hypothesis were developed for this study:

H1: COVID-19 and the imposition of lockdowns had a significant impact on student physical health.

Children were stressed and missed out on opportunities for healthy growth and learning due to forced homestay and loss of contact with teachers, friends, trainers, and counsellors [10]. Many children cannot obtain the nutrition they receive from school meals.

H2: COVID-19 and the imposition of lockdowns had a significant impact on students' mental health.

Closures of schools had been a standard tool for the fight against the COVID-19. However, the costs and its benefits are not well understood. To assess its impact of the school closures on the students' learning, we used a natural type of experiment during examinations.

H3: COVID-19 and the imposition of lockdowns had a significant impact on students' academic development.

Schools and colleges are an unmistakable gatherings with dynamic with a way of life propensities in view of connections and contacts, physical and scholastic exercises, travel, and parties. The pandemic crisis fundamentally affected their lives, particularly given the college's limitations [11]. The COVID-19 pandemic, specifically, fundamentally affected the psychological wellness of understudies in numerous nations throughout the world, getting a comparative reaction as far as feelings and worries among the overall population [12].

H4: Online learning will significantly impact student's frequent mood swings.

RESEARCH METHODOLOGY

Primary data source collection has been used to undertake this research by getting first-hand data from the students of schools and colleges. A questionnaire method has been used to collect the data for the research [13]. According to the study, this designed questionnaire was circulated

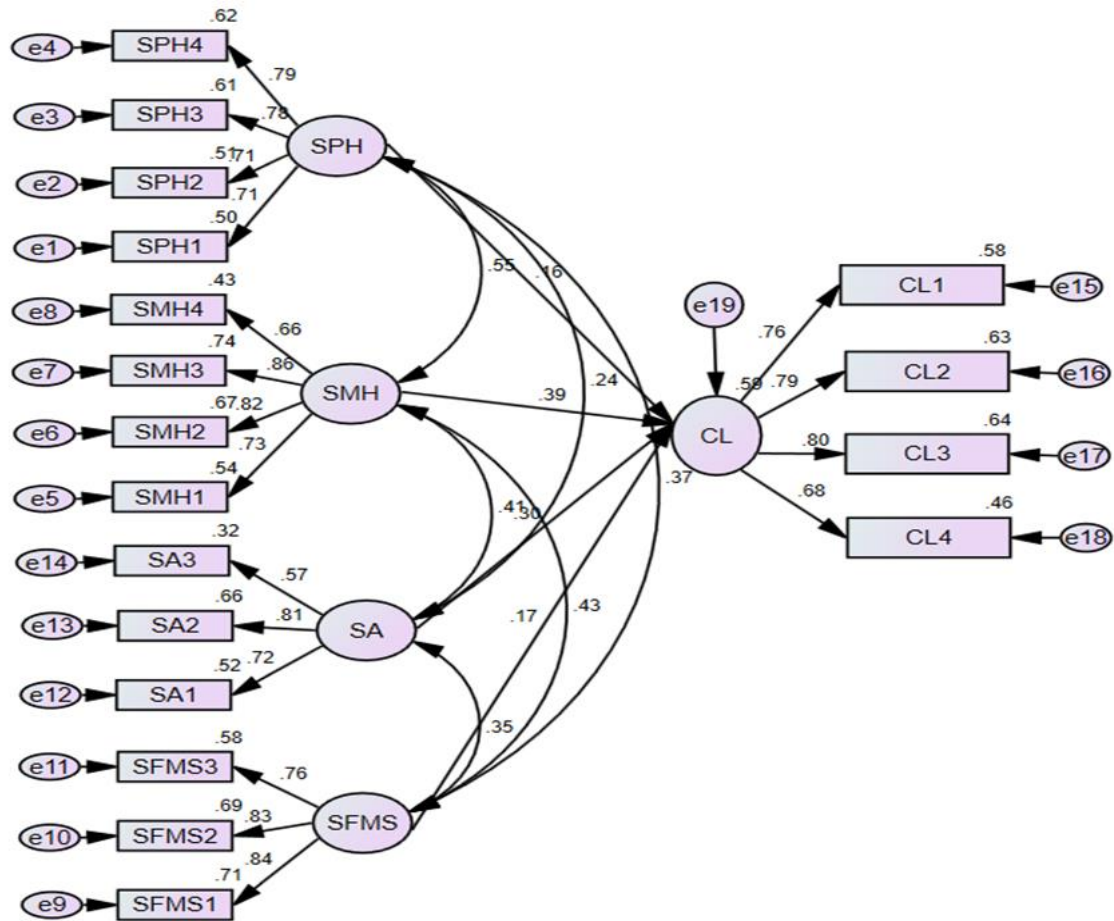
among the students in the sample category, and their responses were recorded [14]. The questionnaire contains three significant sections: academic, physical health, and mental health questions. The respondents had to rate on a 5-point grading scale ranging from strongly agree to disagree strongly [15]. Research does not pertain to primary students under 12 years of age. Students from urban areas are surveyed, but not those from rural areas. Due to the persistence of COVID-19, this research was used for a post-lockdown period therefore, it cannot be applied to typical situations. Due to the lockdown, data availability was reduced and a small sample size was collected. This research has contributed significantly to the state of COVID-19 on students, allowing other researchers to use it as secondary data. Data could be used as a resource to comprehend the effects of virtual learning platforms on students' physical and mental health, as well as their academic performance. The questionnaire was distributed to 678 students in various schools and universities, but only 314 students returned the questionnaire enabling data analysis. We have used the structural equation modelling (SEM) approach.

The ethics clearance has been waived for this research by SSBSR, Sharda University, Greater Noida.

DATA ANALYSIS

Hypotheses were tested using a SEM approach using the AMOS 22.0 software [16]. The model fit measures for the study are chi-square fit statistics/degree of freedom (2.272), goodness fit index (0.911), comparative fit index (0.933), incremental fit index (0.914), Tucker-Lewis's index (0.937), root mean square error of approximation (0.051). Figure 1 shows the structural model testing all of the hypotheses. The path analysis result is used for the hypothesis testing. It has been found that all the hypotheses for this study are accepted. For H1 estimate (0.159), SE (0.061), CR (2.61); H2 estimate (0.389), SE (0.099), CR (3.93); H3 estimate (0.301), SE (0.061), CR (4.93); H4 estimate (0.169), SE (0.073), CR (2.32).

FIGURE 1: STRUCTURAL EQUATION MODELLING FOR THE HYPOTHESIS



DISCUSSION

The first hypothesis proposed is that there was a significant impact of an outbreak of COVID-19 and the imposition of lockdown on students' physical health. Future public health policies involving post lockdowns should increase social support levels to boost general resilience [17]. The second hypothesis proposed was about significant impact of the outbreak of covid and imposition of lockdown on students' mental health. The result shows that the hypothesis is accepted. Under typical conditions, undergraduates experience expanded degrees of mental trouble, which hurts their scholarly execution. Due to physical separating measures carried out because of COVID-19, tertiary schooling establishments have moved to a crisis internet learning design, which is relied upon to compound scholarly stressors for understudies [1].

The third hypothesis proposed was about significant impact of the outbreak of Covid-19 and the imposition of post lockdown on students' academics. The outcome shows that the theory is acknowledged. Various elements added

to understudies' misery during this pandemic but be that as it may, much still needs to be found out regarding understudies' mental health impact and how their antagonistic impacts can moderate them. A credible source of inspiration for an extra investigation into the effect of COVID-19 on understudy psychological wellness is proposed [18]. Variations of constant survival techniques, and approaches taken by academic establishments to diminish unfavorable scholastic and psychosocial results [19].

The fourth hypothesis proposed was about the relationship between adverse health and mental state effects due to online learning and the developments in the behavior, such as frequent mood swings. The result shows that the hypothesis is accepted. Proof might assist with illuminating understudy focused help programs and relieve long haul adverse results for understudy training and psychological wellness [20]. Students will add to diminishing the generally worldwide emotional well-being trouble related with this time of remarkable disturbance and vulnerability [21].

From the audible to the visible, the virtual library to the interactive, digital methods are widely utilised. While digitalization has made it simpler for instructors to disseminate knowledge, it has helped students more quickly by removing barriers [22]. Additionally, the use of technology methods has made studying a serene experience. The introduction of these methods has resulted in the improvement of the school system by integrating a culture of blended and mobile learning. When augmented reality is combined with education, it enhances learning skills such as teamwork and problem-solving. Unlike virtual reality, augmented reality gives teachers the ability to improve learning and its consequence [23]. It is one of the key functions of a LMS to facilitate streamlined learning by allowing instructors and institutions to compile course materials. Gamification is a method for motivating students by creating a fun learning environment through the incorporation of game aspects into academics [24].

CONCLUSION

This research does not apply to the primary students below the age of 12 years. Data is collected from the metropolitan city's students and not from rural areas. This research is used for the post lockdown period due to the persistence of COVID-19, so it is not applicable for typical scenarios. Data availability was less and a small sample size was taken due to lockdown. The research carried out has contributed well to the state of COVID-19 on students so that other researchers could use it as their secondary data. It could be used as a reference to understand the impact of virtual learning platforms on students' physical health, mental health, and academics.

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APPENDIX

QUESTIONNAIRE

Name:

City/District:

Age:

Likert scale: (Strongly agree = 5; agree = 4; neutral = 3; disagree =2 and strongly disagree = 1)

	1	2	3	4	5
Q1. students' physical health					
Due to pandemic our health was impacted or not.					
There was restrictions on playing outside.					
There was depression due to the pandemic.					
There was improvement in the physical health after the lockdown					
Q2. students' mental health					
Stress was a major element that impacted the mental health of the students					
Loss in studies impacted the mental health of the students.					
Fear of online classes impacted the mental health of the students.					
After the revoking of the lockdown there was improvement in the mental health.					
Q3. students' academics					
There was loss in the students studies.					
Students were not able to participate in the co-curricular activities.					
Students got less marks in exams conducted online.					
Q4. Students frequent mood swings					
Due to online teaching students had to face problems which lead to frequent mood swings.					
There was no proper activities which can motivate the students to completely focus on their studies.					
Students mood swings become normal after the lockdown.					