

# The Role of Leisure Satisfaction on Students' Engagement, among Higher Education Institutes during the COVID-19 Pandemic

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*Abstract: This study was conducted in Pakistan during the COVID-19 pandemic. This study examines the role of leisure satisfaction on student engagement, during the period of COVID-19 in higher education institutes. The purpose of the study is to examine the impact of COVID-19 on students' leisure, emotional, cognitive and behavioral engagement. This study is based on three scales: the Leisure satisfaction scale, the student engagement scale and the fear of COVID-19 pandemic scale. This is a quantitative study based on a questionnaire. The results have been drawn over SmartPLS version 4.0. Covid-19 harms Leisure satisfaction, and it also harms the emotional engagement of students. Leisure satisfaction has a positive impact on student engagement, but it has a weak negative relationship with fear of Covid-19. The fear of the COVID-19 pandemic, negatively impacts the students' leisure satisfaction and leads to increased anxiety and depression.*

*Keywords: Leisure Satisfaction; Covid-19; Student Engagement; Higher Education Institutions*

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## 1 Introduction

The pandemic has spread depression and anxiety and limited people around the globe to their houses. People were not ready to face this challenge; even the mind and body were not prepared to accept it [1]. It has been assumed that in days, the

pandemic will come to an end, and a normal social life will resume. However, the speculations about the COVID-19 pandemic were true to some extent, but some people died during the period. The lifestyle of people changed from social to normal, and the focus shifted from progressive to personal. During that period, schools, colleges, and higher education institutes remained closed. Ample universities started online classes [2]. At that time, students were forced to interact with their peers and fellow students over the Internet. The connectivity was limited, and the social life was just a phone call away. The concept of 'leisure' is not new, but the definition of leisure has changed over time. According to Veal [3], leisure is liberation and pleasure. It is an activity in which an individual, apart from his daily obligations and duties, turns at will for relaxation, diversion, or to enrich his mind with knowledge [3]. Leisure has three primary functions: the relaxation of mind and body, the entertainment that one acquires, and personal development through exercise, seeking knowledge, reading books, learning new skills, etc.

According to the Macquarie dictionary, "Leisure is the condition of having free time, apart from any activity or work or duty" [4]. Webster defined leisure as "freedom, free time as a result of temporary exemption from work". It is one's own time for oneself. This is the time of engagement [4]. Also, Webster's Dictionary recorded the definition of leisure as; "a period of unemployment time." The concept of leisure has attracted the attention of scholars who want to adjust to modern life [5]. Digital leisure is another form of leisure. As technology continues to advance, digital devices have become an integral part of our daily existence [6]. Digital leisure refers to the use of digital devices and online platforms for entertainment and relaxation. This encompasses a wide range of activities [6]. Digital leisure is a person's free time on the Internet, such as Instagram, Facebook, and Twitter, to connect with others. It is a process of sharing knowledge, activities, updates, and keeping oneself updated all the time [7-9]. Digital Leisure includes a variety of activities, such as watching movies and enjoying TV shows. Digital Leisure can be divided into several sections, including emotional and social support [11].

Is there a relationship between leisure and student engagement? The case was discussed in 1980 to observe the holistic conceptualization of leisure in a university atmosphere [12]. Leisure activity in its pure form exists on university campuses, where educational purposes, recreation, and satisfaction are manifested in individuals [13]. There is hope for a better future after a degree. This hope not only prolongs leisure activities but also enriches the campus environment [14]. During the COVID-19 pandemic, higher education institutions began online classes. Limited access to Internet connectivity is one of the primary reasons in several areas of Pakistan [15]. Research examines the fear of the COVID-19 pandemic on the engagement activities of students and how it impacts their leisure satisfaction level [16]. Moreover, no study has observed students' engagement with leisure during the covid-19 pandemic. Student engagement is considered academic success [17]. Student engagement is often understood to be a student's ability to invest time in learning activities.

The concept of student engagement was observed in 1969 in the 'Impact of Testing on Student Development' [18]. The concept of engagement differs from that of participation and involvement. Engagement is an activity related to feelings and senses [19]. If an activity is not 'engagement,' it is without feeling and emotions, mere involvement, or compliance. If an activity lacks attention and feelings, it is a dissociation. As mentioned by Fredricks and Blumenfeld [20], there are three dimensions to engagement with students. These dimensions include (1) behavioral engagement, in which a student is behaviorally engaged with the norms of educational institutes. (2) Emotional engagement, in which the student experiences reactions to insolency in the activity. They enjoyed studying and feeling a sense of belonging. (3) Cognitive engagement, in which a student invests time to enrich their minds with knowledge. Moreover, cognitive psychologists enhanced the conception of student engagement and attached it to students' success or achievement. This is often regarded as a student's positive behavior [21]. The design and formulation of student engagement have specific models, and this approach is vital. In the development stage, there are numerous dimensions and models linked to student engagement, such as Solomonides [22] relational and multidimensional models. Leisure has several dimensions, and its concept is not easy to define. According to Havitz and Dimanche [23], leisure involvement is associated with the excitement, awareness, and interest of an individual in leisure activities. Daily disruption, changes in daily routines, academic delays, and worries are critical factors that help students enjoy and participate in an activity [11, 24, 25]. This study addressed four broad research questions.

- RQ1:** Is there a relationship between student engagement and leisure satisfaction?
- RQ2:** How does the Covid-19 pandemic affected the relationship between student engagement and leisure satisfaction?
- RQ3:** Leisure satisfaction has an impact on students' emotional, cognitive, and behavioral engagement.
- RQ4:** Does fear of the COVID-19 pandemic affect students' leisure satisfaction during the COVID-19 pandemic?

## 2 Literature Review and Hypothesis Development

This section covers previous studies of leisure satisfaction and student engagement in higher education institutions during the Covid-19 pandemic. Similar research on the same topic was not on the same topic, as most previous studies discuss 'leisure satisfaction' related to recreational activities. This study focused on examining student engagement during the Covid-19 pandemic. There are overlapping concepts among similar studies. This study uses the domain of conceptual distinction in ongoing scholarly debate.

A study conducted by Ahorsu and Lin [26] observed 717 participants to develop a scale for "fear of COVID-19" (FCV-19S) to observe fear and anxiety related to COVID-19. This scale has been used to observe the pandemic situation in various studies. A similar study conducted by Baud *et al.* [27] observed the mortality rate in China as of March 2020: 79900 patients tested positive for COVID-19, and 7169 tested positive worldwide. In March 2020, China observed 2873 deaths, equivalent to a mortality rate of 3.6%. Deci and Ryan [28] proposed a theory for observing people's dynamic needs. This theory lists three basic needs: autonomy, competence and relatedness. A study conducted by Isik *et al.* [29] observed a case of lockdown during the initial days of the pandemic. Exercise-based techniques can reduce the adverse effects of COVID-19 fear. Nutritional behavior and other recommendations are necessary. This study observed the aspects of the pandemic, a heart failure among patients that remained common due to fear of death, and less activity has led youth to adverse health conditions. This study concluded that non-athletic participants had a higher ratio of 'fear of covid 19'. This case was supported by another study [30], in which participants who had been in exercise-based conditions before the lockdown period were less mentally and physically affected by the pandemic. Leisure and life satisfaction during the pandemic have been observed in several studies. A study conducted by Hermassi and Sellami [31] in Qatar observed a reduction in life satisfaction and leisure among male and female participants by 55% and 57%, respectively. Life satisfaction has mediated between fear, hope, and anxiety and the COVID-19 stress [32] [33]. A non-active condition leads to obesity and a lack of attention towards sports. Ultimately, overall issues lead to decreased leisure and life satisfaction [34].

During the pandemic, a decrease was observed in physical activity and life satisfaction among boys and girls [35]. High life satisfaction is associated with high physical activity, while low life satisfaction is associated with low physical activity [36]. According to the World Health Organization [37], adolescent mental health has been deteriorating worldwide over a long period. Mental health problems have become common according to data provided by the World Health Organization [38]. According to the latest World Health Report, mental disorders worldwide account for 13% [38]. The ongoing trend of mental health issues has further deteriorated by the COVID-19 pandemic, resulting in severe depression, hopelessness, anxiety of different types, and stress [39]. The study found that leisure involvement was positively linked to leisure satisfaction and well-being [40] [41]. This study concludes that attraction plays a pivotal role in leisure satisfaction. Several studies have observed improvements in leisure satisfaction with place attachment. In the case of a higher education institute, the place is for the study, but the role of a place is to fetch students because of several dimensions, the prominent of which is place attachment. Place attachment is commonly noted in religious places as well [42].

**H<sub>1</sub>** *Students with a high fear of the COVID-19 pandemic experience less leisure satisfaction.*

**H<sub>0</sub>** *Students with a high fear of the COVID-19 pandemic experience more leisure satisfaction.*

Student engagement is based on efforts devoted to activities attached to the expected outcome [43]. The greater the engagement of the study with the studies, the more positive the outcome. This is similar to other activities in which students participate for learning purposes. Students engaged in healthy activities acquired more knowledge and achieved higher grades [44]. Students' emotional engagement is a part of their education, and is attached to their cognitive and behavioral attachments. The behavioral engagement of students is their participation in activities [45]. This type of participation is used for learning and understanding. Moreover, emotional, cognitive, and behavioral engagement patterns have been studied separately by researchers, but they have a mutual impact on the overall performance of students [46]. Cognitive engagement refers to the ability to engage in and enjoy an activity. Emotional engagement bridges the relationship between teachers and students. This is also linked to the environment of the institution.

Active participation involves the behavior of students, their effective communication, and conceptualization, which form a belief in corrected learning [47]. Education achievement is attached to the level of 'student's active involvement' and mental health. The higher the academic achievement, the better the level of active involvement [48]. A study conducted on 137 students based on a web survey report to examine the flow experience, academic work, professor's support, and psychological and physical health showed that restructuring the academic work was attached to the mental well-being and overall mental health of the students. Student engagement has been a challenge for universities, as they have upgraded their mode of teaching from traditional to online [49] [50]. These institutes observed the online-teaching benefits [51].

Pakistan lacks electricity in several areas and load shedding has been scheduled since 2007 [52]. Internet connectivity is limited in several respects. Students were forced to take their classes on the high hills, where their laptops could catch Internet signals well, due to load-shedding interruption in the Internet connection [53-55]. These issues are particularly important for Pakistani students. A study conducted by Cheema et al. [56] examined the role of COVID-19 in medical students. It was concluded that online teaching platforms facilitated medical teaching and helped students minimize disruption.

**H<sub>2</sub>** *The COVID-19 pandemic has a strong negative impact on student engagement.*

**H<sub>0</sub>** *The COVID-19 pandemic has had no impact on student engagement.*

Several studies have observed that daily leisure activities among college students have a positive impact on their leisure satisfaction [57] [58]. In addition, leisure satisfaction among college students had a direct positive impact on life satisfaction. According to Kim et al. [59], as leisure satisfaction increases, it is due to the length

of participation in leisure activities. The longer participation in leisure activities, the longer the leisure satisfaction. However, the decrease in leisure satisfaction is a decrease in leisure activity, which has been observed during the Covid-19 pandemic. Recreational activities were positively associated with leisure satisfaction. The role of leisure is limited by the absence of recreational activity. The potential benefits and harms of the Covid-19 lockdown have been studied in several studies. In the case elaborated by Allen [60], the impact of the pandemic lockdown on universities was intense. The teachers were in shock at what was happening in the world, and the students were also in remorse to lose their opportunity to attend classes. The demise of several teachers and professors at the university spread fear of COVID-19 among other university members. In that case, the benefit of COVID-19 is to protect the people from the pandemic, but the harm of lockdown is to limit the activities of students and teachers [61]. The psychological impact of the lockdown was more severe and spread anxiety, depression, and fear of loss. The lockdown had a severe impact on students. The impact was more severe in females concerning their psychological and emotional states. They showed symptoms of depression, anxiety, and symptoms of remorse [61]. Another study examined the Covid-19 lockdown and its impact on the university community using the Depression Anxiety Stress Scale (DASS-21) [62]. In total, 50% of the community members showed a moderate-to-severe impact of Covid-19 fear. The score is higher among the students of social studies, humanities, and law than among the students in engineering and agriculture.

A study observed the relationship between leisure activity and mental health and how it was impacted by Covid-19 [63]. Leisure activity continuously decreased in the first year of Covid-19. However, several areas of the world have not observed strict lockdowns, which is why people enjoy their leisure activities. COVID-19 data show that international students were making progress in shifting their attention from one activity to another for safety. This study observed that youth had a lower level of resilience than older people. Resilience is a dynamic approach that includes interpersonal and intrapersonal risk factors [64]. This study found that a more significant number of leisure activities are better for mental health and for stopping depressive symptoms. Engagement in leisure activities is effective for improving health and building resilience. However, Covid-19 has caused a decrease in leisure activities. A study observed the relationship between home-based recreational activities during the COVID-19 pandemic and its impact on mental health [65]. The findings of the study suggest that several healthy activities were adopted by the respondents at home, including gardening, to minimize the level of anxiety and maximize life satisfaction. Engagement in woodwork and craft has led to remarkable changes in mental health. However, with the increased level of television watching and listening to news of COVID-related deaths, the spread of COVID-19 caused depressive symptoms [63].

**H<sub>3</sub>** *Leisure satisfaction has a positive impact on the students' engagement during the Covid-19 pandemic.*

**H<sub>0</sub>** *Leisure satisfaction has no impact on the students' engagement during the Covid-19 pandemic.*

### 3 Material and Methods

To compare leisure among students, it is necessary to observe leisure activities before and after the COVID-19 pandemic. There is a need to devise a scale to assess leisure satisfaction among students before and after the COVID-19 pandemic.

The available scale, the 'leisure satisfaction scale,' is helpful in this regard, but being too old serves little purpose. However, along with other scales relating to COVID-19, the 'Fear of COVID-19 scale' can accomplish the task. The student engagement scale was adopted from the study conducted by Gunuc et al. [66]. This scale is based on three variables: (1) emotional engagement, (2) cognitive engagement, and (3) behavioral engagement. The leisure satisfaction scale (LSS) is used to measure the 'leisure activity of an individual' [67]. This scale consists of twenty-four items rated on a 5-point Likert scale (1. Strongly disagree, 2. Disagree, 3. Neutral, 4. Agree, 5. Strongly agree). The leisure satisfaction scale is further divided into six items. The subscale score was examined using the means of items in each scale. The subscales included (1) psychological, (2) educational, (3) social, (4) relaxation, (5) physiological, and (6) aesthetic. The fear of COVID-19 scale was adopted in this study to examine the level of 'fear among students' during the COVID-19 pandemic. The scale was developed by Ahorsu et al.

This study was conducted with 500 respondents from different universities in Pakistan, including employees, community members, and students from every subject. No discrimination was made during the selection process as the random selection method was adopted. The universities included in the study are Punjab University, Government College University, LUMS University from Lahore city, the Government College University and the University of Agriculture from Faisalabad city, University of Sialkot, University of Sindh, Quaid-e-Azam University were partially included in the study. The study sample consisted of people aged between 18 to 45 years. This study focused on youth leisure satisfaction, which is why students and teachers aged 45+ years were not included in the study. The dependent variable, leisure satisfaction included six sub-variables: psychological leisure satisfaction, educational leisure satisfaction, social leisure satisfaction, relaxation leisure satisfaction, physiological leisure satisfaction, and aesthetic leisure satisfaction. The independent variable was student engagement. It includes emotional, cognitive, and behavioral engagement. The moderator of the study was 'fear of COVID-19.' The results of the study were analyzed using partial least squares structural equation modelling software (PLS-SEM). SmartPLS can cope with complex quantitative models as well as non-normal data models [68].

SEM is an acceptable de facto standard in business and management studies to investigate the relationships between variables.

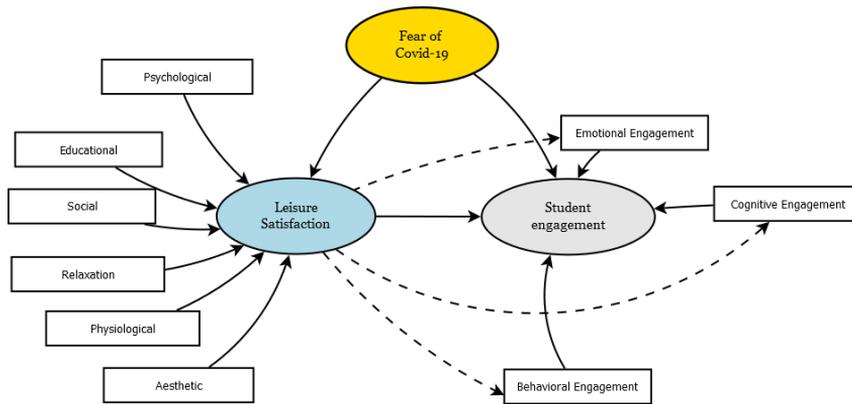


Figure 1  
Framework of the Research

## 4 Results

Table 1  
Respondents' demographic Characteristics

Characteristics		Frequency/percentage
Gender	Male	386 (77.2%)
	Female	114 (22.8%)
Age	18-28 years	75 (15.0%)
	29-40 years	245 (49.0%)
	41+ years	180 (36%)
Qualification level	PhD	39 (7.8%)
	Bachelors	292 (58.4%)
	Others	169 (33.8%)

The study sample comprised 500 participants. Based on gender, 77.2% (386) of the participants were male and 22.8% (114) were female. The highest proportion of respondents between 29 and 40 years of age was 49% (245), 41+ years of age was 36% (180), and the age between 18 and 28 was 15% (75). Regarding the qualifications of the respondents, the highest qualification was a bachelor's degree (58.4%), followed by other degrees (33.8%), and PhD holders (7.8%).

Table 2  
Convergent Reliability and Validity of Constructs

	<b>Constructs</b>	<b>Cronbach's Alpha</b>	<b>CR</b>	<b>AVE</b>
Student Engagement	Behavioral engagement	0.800	0.850	0.550
	Cognitive engagement	0.750	0.750	0.500
	Emotional engagement	0.850	0.800	0.650
	Fear of Covid-19	0.850	0.900	0.700
Leisure Satisfaction	Physiological Leisure Satisfaction Scale	0.800	0.800	0.650
	Aesthetic Leisure Satisfaction Scale	0.850	0.800	0.600
	Educational Leisure Satisfaction Scale	0.800	0.850	0.600
	Psychological Leisure Satisfaction Scale	0.700	0.750	0.550
	Relaxation Leisure Satisfaction Scale	0.750	0.800	0.600
	Social Leisure Satisfaction Scale	0.800	0.800	0.700

The reliability and validity of the constructs measured in this study were assessed using Cronbach's Alpha, Composite Reliability, and Average Variance Extracted (AVE). The Cronbach's alpha values consistently exceeded the generally accepted threshold of 0.7, indicating a high level of internal consistency for the items within each scale. The values ranged between 0.7 and 0.85, demonstrating strong reliability and consistency in the measured constructs. Similarly, the Composite Reliability, which measures the internal consistency of latent variables, consistently surpassed the recommended threshold of 0.7. The values ranged between 0.75 and 0.9, signifying the robustness of the latent constructs in this study. The Average Variance Extracted (AVE), a measure of convergent validity, was above 0.5 in all cases, with values ranging from 0.55 to 0.7. This indicated that more than 50% of the variance in the observed variables was examined by their underlying constructs, confirming convergent validity.

Table 3  
Measurement Model results (Direct)

<b>Variables</b>	<b><math>\beta</math></b>	<b><math>R^2</math></b>
COVID-19 -> Leisure	-0.124	0.015
COVID-19 -> Student Engagement	0.285	0.183
Leisure -> Student Engagement	0.356	

In the above table, three variables—Covid-19, Leisure, and Student Engagement—interact with each other. According to the structural equation modelling results, 'fear of COVID-19' and leisure satisfaction had a negative relationship of -0.124.

Moreover, leisure accounted for 1% of the endogenous variable (Covid-19). The relationship between COVID-19 and Leisure time was significant. The variable 'Covid-19' and 'Student engagement' has a weak positive relationship of 0.285. The relationship between COVID-19 and Student engagement is significant. This further shows that the endogenous variable explained 18.5% of the variance. A direct relationship between 'Leisure' and 'Student engagement' shows a strong positive relationship of 0.356. The relationship between these variables was significant.

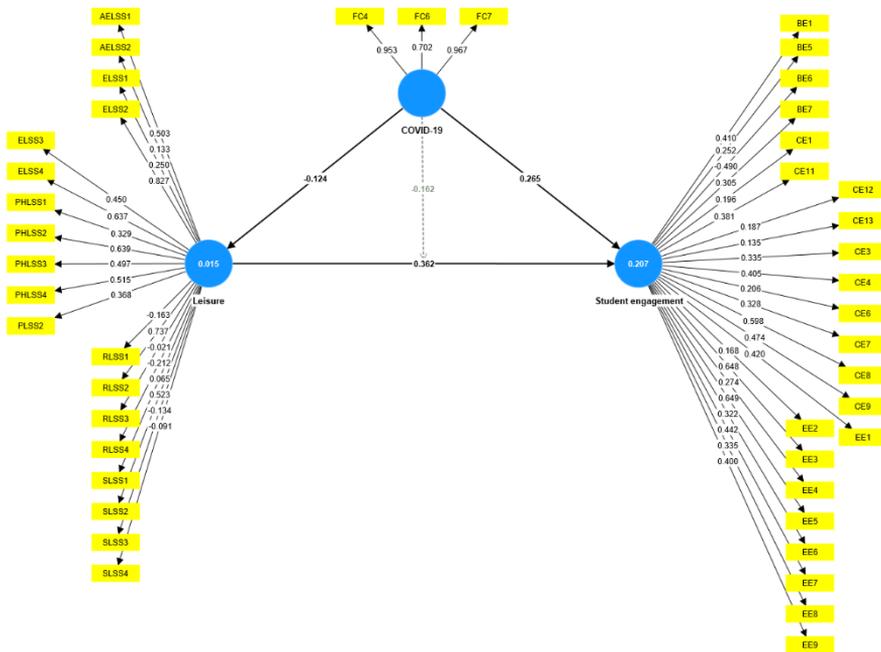


Figure 2

Measurement Model: Direct Relationship between Variables

Table 4

Measurement Model Results (Indirect)

Variables	$\beta$	Standard deviation	T	R <sup>2</sup>
COVID-19 -> Behavioral engagement	0.285	0.233	1.221	0.143
Leisure -> Behavioral Engagement	0.247	0.226	1.094	
COVID-19 -> Cognitive engagement	0.151	0.196	0.768	0.137
Leisure -> Cognitive engagement	0.272	0.339	0.804	
COVID-19 -> Emotional engagement	-0.002	0.162	0.013	0.035
Leisure -> Emotional Engagement	-0.159	0.351	0.452	

The structural equation modelling results in the above table show the relationship between COVID-19 and three dimensions of student engagement: (1) behavioral, (2) cognitive, and (3) emotional engagement. The relationship between COVID-19 and Behavioral engagement was positive at 0.285. Moreover, behavioral engagement explained 14.3% of the endogenous variables. On the other hand, leisure had a positive relationship with behavioral engagement at 0.247. This relationship is significant. Similarly, the impact of COVID-19 on cognitive engagement was 0.151, which shows a weak positive relationship. However, leisure had a weak positive relationship with cognitive engagement. COVID-19 had a negative impact on emotional engagement (-0.002). However, the relationship between the variables was significant. Leisure also had a negative relationship with emotional engagement at -0.159. Moreover, 03.5% of the variance was explained by emotional engagement in the endogenous variable.

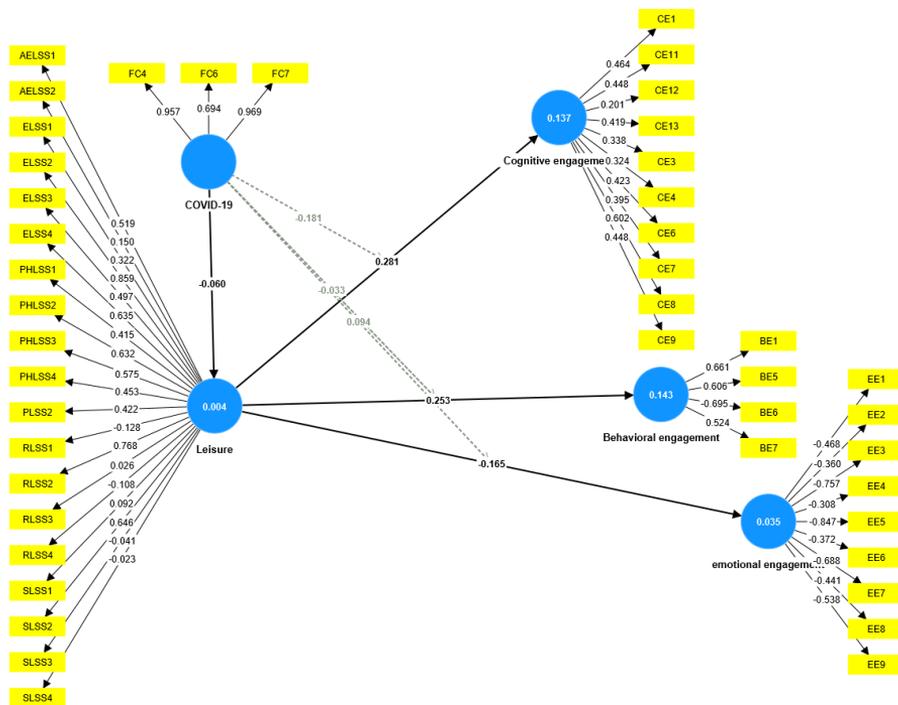


Figure 3  
Measurement Model: Indirect Relationship between Variables

## 5 Discussion

The results of the structural equation modelling showed that there was a weak negative relationship between fear of the COVID-19 pandemic and leisure satisfaction during the COVID-19 pandemic. This shows that the students were not feeling comfortable at the time, and the level of anxiety and depression among the students remained high during the COVID-19 pandemic in Pakistan. Studies conducted by Ahorsu *et al.* [26] and Sakib *et al.* [70] reported higher scores for fear of COVID-19, and a similar case was observed in our data showing high scores for fear of COVID-19. Some studies have reported medium to moderate scores [71]. This further shows that students' ability to communicate with peers, enjoy campus life, and learn new things is limited. In addition, the students were bound to obey COVID-19 precautionary protocols. They were unable to perform their daily activities or accomplish routine tasks. The studies were narrowed down to Internet interaction, and the majority of students were afraid of their careers. The hypothesis of the study, fear of the COVID-19 pandemic, had a negative impact on the leisure satisfaction of the students. However, the students were engaged in studies during the time of Covid-19. Their engagement, emotional, cognitive, or behavioral, is addressed in the results where Covid-19 has a positive relationship with student engagement. It further shows the ability to feel campus life and return after the situation becomes normal. It further elaborates on the case in which students are cognitively engaged in their studies, either on the Internet or away from the university. They felt the urge to cope with the situation, where COVID-19 was not considered a long-term issue but a short-term situation. It rejects the hypothesis that the Covid-19 pandemic has a strong negative impact on student engagement. During the Covid-19 pandemic, there was a positive relationship between leisure and student engagement. It shows students' engagement with their leisure satisfaction through different mediums of interaction. However, a low score indicates a limited level of engagement. This further supports the hypothesis that leisure satisfaction positively impacts student engagement during the COVID-19 pandemic.

The relationship between fear of COVID-19 and behavioral engagement was positive. In addition, the relationship is significant, which shows that fear of Covid-19 has an impact on students' behavioral engagement. There was a change in the behavior of the students regarding their studies. They feel bored outside campus. Leisure has a significantly positive relationship with behavioral and cognitive engagement. However, leisure had a negative relationship with emotional engagement. The negative impact of COVID-19 on emotional engagement shows that fear of COVID-19 spread weakens the emotional engagement of students. They were unable to establish their frameworks according to the situation. The negative relationship between leisure and emotional engagement was the same.

## Conclusions and Limitations

This study concludes that fear of the COVID-19 pandemic negatively impacts students' leisure satisfaction, leading to increased anxiety and depression. Despite these challenges, the students showed positive engagement in their studies, both emotionally and behaviorally. Fear of COVID-19 also influenced students' behavioral engagement while maintaining a positive relationship with leisure and cognitive engagement. Cognitive engagement was the most important factor in student engagement. It bridges emotional and behavioral engagement.

In the classroom, student participation is purely cognitive. The absence of cognition in cognitive engagement is considered an absence from class. Similarly, this is the case with emotional engagement, where a student feels the environment in which they are studying. In the Covid-19 pandemic, a severe negative impact was observed on emotional engagement. The emotional dissociation of students during the pandemic was due to high levels of anxiety and depression.

This study explored whether fear of the COVID-19 pandemic impacted all factors of student engagement. It has been observed that only emotional factors are negatively affected by the Covid-19 pandemic. However, cognitive and behavioral factors remain intact. In addition, the findings revealed that the COVID-19 pandemic negatively impacted leisure factors. This study highlights the impact of the pandemic on students' leisure satisfaction and resilience in maintaining engagement during the Covid-19 pandemic. This study revealed a fascinating relationship between fear of the COVID-19 pandemic, the role of student engagement, and students' leisure satisfaction. The fear of Corona virus undeniably limited the level of student engagement and leisure satisfaction, highlighting anxiety and depression among students and teachers. Leisure activities during the pandemic were not enjoyable for everyone. This was a time of chaos, despair, and stress. Students cannot find a way out of their boredom to enjoy their lives by studying and engaging in other activities, such as playing and socializing. However, the pandemic has assured a great responsibility on the shoulders of students by offering them an 'understanding of socializing' and 'leisure satisfaction'.

This research acted as a bridge to connect the emotional investment of a student's feelings in their study with behavioral engagement as an action they take to feel leisure. Inside the classroom, student participation is limited to learning. However, authentic learning relies on experiencing emotional engagement, which allows learners to connect with the material world through the environment. However, the pandemic has hampered emotional engagement owing to anxiety and stress.

Despite the challenges caused by the pandemic, this study found that cognitive and behavioral engagement remained intact. This further shows that despite the emotional stress among students, learning and taking action to achieve the goal remained a top priority for students. This further assures students' adaptability and emphasizes the importance of strong cognitive engagement.

### Study Limitations

This study had several limitations. The sample was taken from university students and not from college and school students or teachers. The sample size was limited to 500 participants. This study had a cross-sectional design, which means that the data were collected at a single point in time. This design did not measure the 'causality' between fear of COVID-19 and leisure satisfaction or student engagement.

This study relied on self-collected survey data. This can be susceptible to bias, as not all respondents present their true feelings in the form of answers. This study focuses on Pakistani students. The results are not applicable to other countries as the COVID-19 situation in each country differs from that in other countries. This study explores the relationship between leisure satisfaction and student engagement. However, it does not explore the specific types of leisure activities that might be beneficial during the pandemic.

These limitations highlight the need for future research on the same topic to examine a more diverse sample using a longitudinal design.

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