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THE IMPACT OF ONLINE EDUCATION ON STUDENT HEALTH AND STUDENT ACADEMIC PERFORMANCE

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Abstract: COVID-19 is just spreading like a wildfire in the world that brought enormous changes, and one of the unbelievable changes that happened is Online Education (The Economic Times). The rapid expansion of digital technology and the sudden transition to online learning during the global pandemic have reshaped the educational experience for students in ways that continue to influence their academic performance and overall wellbeing. Recent times the online education have also taken many changes and many easy escapes of attending the same online education classes. The benefits of online education are limited in certain population. In the same way the study talks about online education impact on student health and performance. In this study we take different questions related to the variable online education, student health and student performance. The study mainly focused on students and a questionnaire is shared with different students. Using SPSS and tests like Anova, Correlation and T-test using the variables we got to know that the relation between student academic performance in online and offline. There is also a relation between different factors of student health and performance. The study focusses on students of different age group and finding the difference between the groups. So, this study helps in knowing the importance of online learning and the relation between student academic performance online and offline.

Keywords: Online education, student health, student academic performance, traditional education.

I. INTRODUCTION

Introduction to online education

Online Education? How many of you just heard it or knew it before 2020? It's still hard to believe how COVID has changed our lifestyle and technology. COVID-19 is just spreading like a wildfire in the world that brought enormous changes, and one of the unbelievable changes that happened is Online Education (The Economic Times). How many of you guys thought that there was a way to attend classes rather than a physical classroom setting, using various information and communication technologies? As someone who just completed his school in the COVID period and has attended online classes, I know how much technology has improved our education dramatically(Research Gate). Some studies reported improvements in academics due to the flexibility and accessibility of Online Education by learning in their own space. However, studies also show challenges such as a decrease in engagement, isolation, lack of focus, and a reduction in the Interaction between the teachers and students, and between classmates. Online learning has also caused health issues for students. But the effectiveness of online education is influenced by factors such as the quality of digital tools, good internet, and devices that give the freedom to learn more outside of classrooms. Keeping the student engaged isn't always that easy, but things like discussion forums and other interactive tools have really helped. Regular interactions between students and teachers also have a significant impact on students' engagement and performance.(Springer). So, after experiencing both the benefits and the struggles of online learning firsthand, one big question remains: what should online education look like moving forward? I'm sure many of you have your own thoughts and experiences too.

Introduction to student health

The rapid growth in technology have increased many opportunities in every sector one of them is education where online learning has become a key part to increase ones' skills and knowledge. The transition to online education had a negative impact on the physical and mental health of students, which showed in depression, anxiety, and many other things. So this study also studies about how the online learning effects the student health and student academic performance.

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II. REVIEW OF LITERATURE

Using systematic and Kirkpatrick rating the results and analysis is taken. The analysis of 64 studies has been considered. But this study lacks non-cross-sectional studies. After the pandemic the education took a turn where schools are cancelled, and education sectors changed to online segment. So, this paper concluded by saying the studies which took learning outcome as a performance indicator told that this method helps students improve their academic performance and helps in upscaling their skills.(Abdull Mutalib et al., 2022).

In 2015, 92% of American teens reported going online every day, and 24% described using it almost constantly. The association between excessive use of technology and sedentary behaviour has contributed to a doubling of childhood obesity rates and sleep deprivation. Developmental delays in motor skills and sensory stimulation are also possible consequences. Heavy use has been correlated with increased rates of depression, anxiety, hostility, attention issues, etc. It can also negatively impact “enterprise skills” such as creativity and delaying gratification. The risks here include cyberbullying (approximately 25% of teens report being bullied), exposure to sexual predators through social networking sites, what I call “social networking fatigue,” overuse leading to isolation from real-world social interaction opportunities, etc. Technology addiction is defined as a growing public health threat that activates the brain's pleasure pathways in much the same way as opiate ingestion or gambling does. It is marked by overuse that disrupts daily functioning, relationships, and school performance. The author concludes that technology cannot be avoided but must be moderated by parents and educators alike; thus, more time spent on activities promoting real-world relationships accompanied by physical development needs to be balanced with technological exposure for healthy youth development.(Halupa, 2016)

According to the study, students who received their education online during lockdowns performed noticeably better on exams than those who received no assistance from the school. Additionally, the calibre of instruction was crucial: students who watched recorded lessons from the top teachers in the city performed better than those who attended their own school. Notably, while top performers were unaffected, low-achieving students benefited the most from online learning, which helped close the achievement gap. Exam scores were found to be positively impacted by online learning in a statistically significant way.

• Overall Effect: Compared to students at School A who received no support, students at Schools B and C who received online instruction scored 0.22 standard deviations higher.
• Score Equivalent: An improvement of roughly 26 exam points is equivalent to this standard deviation. Online education wasn't all the same. It was important to know where the teaching materials came from.
• External vs. Internal: The external expert teachers in School C scored 0.06 standard deviations higher than the internal teachers in School B.
• Implication: Even in the absence of face-to-face communication with that teacher, results are enhanced by high-quality recorded
content.
The study concludes that when mobility is limited, online learning is a very good alternative to traditional classroom instruction. Educational systems can potentially reduce the achievement gap between high- and low-performing students in addition to mitigating learning loss by utilizing high-quality recorded content and making sure students have the right devices (computers). (Clark et al., 2021)

Previous studies have provided conflicting evidence about the effect of online education in relation to student learning and their mental well-being. Alghamdi et al. (2020) wrote that the multitasking involved in online classes negatively impacts learning. Interestingly, female students were somewhat more capable of resisting distraction. Additionally, Xu and Jaggar (2021) indicated an abrupt decline in both grades and continuation of studies in online versus face-to-face courses, creating distrust in online education, especially in community college contexts.

Conversely, other studies demonstrate that online learning tools create a better learning experience than traditional classrooms if properly implemented. Wieling and Hofman (2010) noted that video-recorded lectures and automated assessment and feedback can lead to higher grades by providing students with extra flexibility in learning. Kearsley et al (1995) also highlighted the potential advantages of online learning at the graduate level and pointed to good learning outcomes when technology is used correctly. Finally, Volery and Lord (2000) referred to instructors' competency, technology quality, and students' prior experience with computer usage as the essential keys to success in online learning. An international study of students by Lee (2010) established that while Korean and US students held different views regarding online support services, they nonetheless shared a belief that when designed correctly, online classes could provide benefits to students. Overall, previous studies have indicated that online education may positively impact learning by providing more flexible opportunities and access to digital resources; however, studies also demonstrate that the

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impact of online courses can be significantly modified by students having, or not having, access to technology, the quality of instructors, and socioeconomic status (Deshpande & Mhatre, 2021).

This study shows how Covid-19 impacted Students Performance and Engagement.
The Methodology used here is Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA).
The outcomes obtained are not specific but mixed i.e. some of them improved due to accessibility, Flexibility and Paced-learning, but others it reduced their interactions, engagement and academic outcomes.
Online classes have been there from 1990s. It's more convenient, flexible.
Since everything has two sides to it. Even Online Learning has both the Positive and Negative aspects. They are:
Positive:

1. Since online, there is the option to record sessions. This helped the students to go back to the recorded sessions
2. Self-paced improved comprehension skills
3. LMS tools also impacted the results positively

Negative:

1. Network issues
2. Difficulty using some of the platforms

To conclude, ultimately it depends on how institutions and Universities integrate robust digital strategies that balance performance and Student interaction. (Akpen et al., 2024a)

III. METHODOLOGY

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Problem Statement:
The education landscape took up a drastic change after Covid19. The pandemic forced all the educational institutions to shift from traditional classroom environments to digital platforms. What was initially a response to the pandemic turned out to become a practice and a mainstream learning ecosystem.
This sudden transition impacted on the students on how they learn, react, perform and stay healthy.
So, the concern here is about how the student's mental and physical health and academic performance is being affected.

Need for the Study:

- Percentage of students who depend on online or hybrid learning models
- Whether online education increases or decreases the grades and engagement of the students
- Rise in eye strain, Stress, reduced physical activity and many more health implications

Scope of the Study:

I. Students' physical and mental well-being:

This covers all the parameters or the aspects of health related to the students due to long duration spent on online education platforms.
The study focuses on:

1. Physical health- eye strains, headaches, fatigue and posture related problems
2. Mental health- stress, anxiety, emotional balance and attention span
3. Lifestyle- sleep cycles and irregular routines

II. Academic performance:

This shows how the student performs academically.

1. Grades before and after online classes
2. Class engagement like responsiveness, participation, and interactions.

III. Academics outcomes:

Skill Development like digital literacy, self-learning ability and communication skills.

IV. Behavior patterns:

This shows how online education affects the behavior patterns of the students.

1. Screen time habits- how much they spend on education purpose and non-educational purpose
2. Interaction levels- participation in group tasks and peer communication.

Sample Design:
We targeted the student community not just the ones that use online or digital platforms.
We used a mixture of sampling approaches to our study i.e. Stratified (Undergraduate and postgraduates), Convenience sampling and snowball sampling.
Objective of the Study:

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- To study the impact of online education on student health and performance
- To know the relation between student health and performance with the factor of online education.
- To know the relation between student academic performance online and offline.

IV. DATA ANALYSIS

S. No	Hypothesis (H0)	Significance value	Fail to reject H0 or Reject H0
1	There is no significance difference between gender and technical problems	0.936	Fail to reject H0
2	There is no significance difference between gender and student health	.191	Fail to reject H0
3	There is no significance difference between gender and student health	0.299	Fail to reject H0
4	There is no significance difference between gender and social interaction	0.820	Fail to reject H0
5	There is no significance difference between gender and obsession to laptops	0.410	Fail to reject H0
6	There is no significance difference between gender and student academic performance	0.570	Fail to reject H0
7	There is no significance difference between gender and student focus on classes	0.951	Fail to reject H0
8	There is no significance difference between gender and student academic performance	0.565	Fail to reject H0
9	There is no significance difference between gender and self- study habits	0.946	Fail to reject H0
10	There is no significance difference between gender and problem solving	0.188	Fail to reject H0
11	There is no significance difference between gender and marks attained with online education	0.062	Fail to reject H0
12	There is no significance difference between gender and marks attained with offline education	0.037	Reject H0
13	There is no significance difference between age and technical problems	0.034	Reject H0
14	There is no significance difference between age and student health	0.759	Fail to reject H0
15	There is no significance difference between age and student health	0.437	Fail to reject H0

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16	There is no significance difference between age and social interaction	0.581	Fail to reject H0
17	There is no significance difference between age and obsession to laptops and mobiles	0.174	Fail to reject H0
18	There is no significance difference between age and student academic performance	0.256	Fail to reject H0
19	There is no significance difference between age and concentrating on online classes	0.416	Fail to reject H0
20	There is no significance difference between age and student academic performance	0.837	Fail to reject H0
21	There is no significance difference between age and student self-study habits	0.557	Fail to reject H0
22	There is no significance difference between age and student problem solving skills	0.447	Fail to reject H0
23	There is no significance difference between age and marks scored by online education	0.074	Fail to reject H0
24	There is no significance difference between age and marks scored by offline education	0.205	Fail to reject H0
25	There is no significance relationship between student technical problems and student focus on online classes	0.003	Reject H0
26	There is no significance relationship between student health and focus and online classes	0.000	Reject H0
27	There is no significance relationship between student health and focus on online classes	0.000	Reject H0
28	There is no significance relationship between obsession of laptops and focus on online classes	0.004	Reject H0
29	There is no significance relationship between student marks in online education and student marks in offline education	0.000	Reject H0

V. INTERPRETATION

This table shows about the hypothesis we took for the study and the results we got using the analysis of the study. Here there is no significant difference between the gender groups and age groups with the variable's student health and student academic performance. With the help of analysis, we got to know there is a relation between online education with student

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health and online education with student academic performance. There is also a relation between student academic performance online and student academic performance offline.

VI. DISCUSSION

The research has discovered that the influence of online education on students is mostly similar across different demographic categories. The t-test indicated no significant difference between male and female students regarding their health or academic performance, suggesting that online learning environments offer comparable conditions and challenges to all genders. Similarly, ANOVA results confirmed that age does not significantly affect how students relate to online education, implying that both younger and older learners encounter similar advantages and difficulties within virtual settings.

Even though demographic factors revealed no significant differences, a strong association between student health and academic performance was noted; better physical and mental health among students leads to more effective online learning. This emphasizes that the effectiveness of digital education depends not only on access to technology but also on maintaining balanced health, managing stress, and adjusting to virtual routines. Overall, these findings indicate that while online education may create an equalized experience for different gender and age groups, student health is the most important determinant of academic results. This highlights the importance for institutions of integrating wellness support, health awareness, and stress-management strategies into their online learning systems. We also found out that there is a correlation between student health and performance. There is also a relation with student academic performance online with student academic performance offline. So, we can say that there is no difference between the groups but there is relation between student health and academic performance online education.

VII. LIMITATIONS

This study has several limitations that should be considered while interpreting the results.
First, there is a lack of extensive and diverse data, as the sample size is limited and may not fully represent the wider student population.
Second, the available data appears to be concentrated mainly within India or a specific regional context, which restricts the generalizability of the findings to students from different countries, cultures, or education systems.
Third, the study focuses only on students' experiences with online education platforms, but does not compare different platforms (such as Zoom, Google Classroom, Teams, or LMS portals), nor does it analyse technical quality, internet stability, or platform usability. As a result, any challenges faced by students may be influenced by platform-related issues that the study did not examine separately.
Fourth, there is a clear geographical limitation, as students from rural, semi-urban, and urban areas may have very different learning environments, internet access, and technological support, yet the study does not differentiate or analyse these variations.
Finally, the study considers only a limited set of factors, such as eye irritation, memory issues, social interaction, and academic performance. Other important aspects like emotional well-being, family environment, economic background, learning disabilities, teaching quality, and device availability were not included, which may influence student experiences and outcomes but remain unexamined.

VIII. CONCLUSION

In simpler terms based on the data. Health impacts are uniform across all demographics; there are no differences between males and females or across age groups concerning the health impacts of online education. Eye irritation, memory issues, and attention problems are equally likely to occur among both genders and all age groups. Female students perform better in offline classes; however, in offline classes, female students have significantly better marks compared to male students. In online classes, female students have higher average marks compared to male students, but this difference is not statistically significant. Age influences the likelihood of being discouraged by technical issues; the analysis established that a student's age determines how easily he or she gets discouraged by technical issues. Some age groups find it more discouraging than others. In summary Online education serves as a great equalizer impacting health and behavioural aspects uniformly across demographic variables. However, gender differences in academic performance existing in offline classes manifest differently in online classes, while age is a significant factor in determining how easily students get discouraged by technical issues. We also found out that there is a correlation between student health and performance. There is also a relation with student academic performance online with student academic performance offline. So, we can say that there is no difference between the groups but there is relation between student health and academic performance online education.

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TABLES AND FIGURES

1.

Group Statistics

	2.Gender	N	Mean	Std. Deviation	Std. Error Mean
4.During online classes does technical problems discourage you.	Male	66	3.67	1.028	.127
	Female	43	3.65	.923	.141

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
4.During online classes does technical problems discourage you.	Equal variances assumed	1.167	.283	.080	107	.936	.016	.194	-.368	.399
	Equal variances not assumed			.082	96.566	.935	.016	.189	-.360	.391

2.

Group Statistics

	2.Gender	N	Mean	Std. Deviation	Std. Error Mean
5.Do you feel eye irritation during online classes.	Male	66	3.74	1.086	.134
	Female	43	4.00	.845	.129

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		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
5.Do you feel eye irritation during online classes.	Equal variances assumed	7.887	.006	-1.317	107	.191	-.258	.196	-.645	.130
	Equal variances not assumed			-1.387	103.533	.168	-.258	.186	-.626	.111

3.

Group Statistics

	2.Gender	N	Mean	Std. Deviation	Std. Error Mean
6.Has Your Memory weakened due to online classes.	Male	66	3.12	1.144	.141
	Female	43	3.35	1.066	.163

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
6.Has Your Memory weakened due to online classes.	Equal variances assumed	.000	.988	-1.043	107	.299	-.228	.218	-.660	.205
	Equal variances not assumed			-1.058	94.312	.293	-.228	.215	-.655	.199

4.

Group Statistics

	2.Gender	N	Mean	Std. Deviation	Std. Error Mean
7.Has online classes positively affected to interact with friends or strangers.	Male	66	3.21	1.170	.144
	Female	43	3.16	.998	.152

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
7.Has online classes positively affected to interact with friends or strangers.	Equal variances assumed	1.929	.168	.228	107	.820	.049	.217	-.380	.479
	Equal variances not assumed			.235	99.394	.814	.049	.210	-.367	.465

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5.

Group Statistics

	2.Gender	N	Mean	Std. Deviation	Std. Error Mean
8.Are you obsessed with mobile and laptop due to online classes.	Male	66	3.50	1.193	.147
	Female	43	3.67	.865	.132

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
8.Are you obsessed with mobile and laptop due to online classes.	Equal variances assumed	8.378	.005	-.827	107	.410	-.174	.211	-.593	.244
	Equal variances not assumed			-.884	105.698	.379	-.174	.197	-.566	.217

6.

Group Statistics

	2.Gender	N	Mean	Std. Deviation	Std. Error Mean
9.Has online education positively affected your overall academic performance as compared to traditional classes.	Male	66	3.32	1.179	.145
	Female	43	3.44	.983	.150

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
9.Has online education positively affected your overall academic performance as compared to traditional classes.	Equal variances assumed	1.460	.230	-.571	107	.570	-.124	.217	-.553	.306
	Equal variances not assumed			-.593	100.528	.555	-.124	.209	-.538	.290

7.

Group Statistics

	2.Gender	N	Mean	Std. Deviation	Std. Error Mean
10.Do you face difficulty concentrating online classes.	Male	66	3.85	.996	.123
	Female	43	3.86	.990	.151

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		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
10.Do you face difficulty concentrating online classes.	Equal variances assumed	.037	.849	-.062	107	.951	-.012	.195	-.398	.374
	Equal variances not assumed			-.062	90.290	.951	-.012	.194	-.398	.374

8.

Group Statistics

	2.Gender	N	Mean	Std. Deviation	Std. Error Mean
11.How effective do you find online exams and assessments in measuring your true knowledge?	Male	66	3.20	1.140	.140
	Female	43	3.07	1.100	.168

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
11.How effective do you find online exams and assessments in measuring your true knowledge?	Equal variances assumed	.013	.910	.577	107	.565	.127	.220	-.310	.564
	Equal variances not assumed			.582	92.185	.562	.127	.219	-.307	.561

9.

Group Statistics

	2.Gender	N	Mean	Std. Deviation	Std. Error Mean
12.Has online learning improved your research and self study habits.	Male	66	3.41	1.123	.138
	Female	43	3.40	.903	.138

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
12.Has online learning improved your research and self study habits.	Equal variances assumed	4.393	.038	.067	107	.946	.014	.204	-.391	.419
	Equal variances not assumed			.070	102.197	.944	.014	.195	-.373	.401

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10.

Group Statistics

	2.Gender	N	Mean	Std. Deviation	Std. Error Mean
13.Do you believe online education helps in developing critical thinking and problem solving skills.	Male	66	2.97	.976	.120
	Female	43	3.21	.833	.127

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
13.Do you believe online education helps in developing critical thinking and problem solving skills.	Equal variances assumed	.248	.620	-1.325	107	.188	-.240	.181	-.598	.119
	Equal variances not assumed			-1.371	99.400	.174	-.240	.175	-.586	.107

11.

Group Statistics

	2.Gender	N	Mean	Std. Deviation	Std. Error Mean
14.Share the percentage marks for the year where you learnt from online and mention the year also (if not reply "-").	Male	44	77.31	11.786	1.777
	Female	23	83.13	12.113	2.526

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
14.Share the percentage marks for the year where you learnt from online and mention the year also (if not reply "-").	Equal variances assumed	.010	.919	-1.902	65	.062	-5.823	3.061	-11.937	.291
	Equal variances not assumed			-1.886	43.687	.066	-5.823	3.088	-12.048	.402

12.

Group Statistics

	2.Gender	N	Mean	Std. Deviation	Std. Error Mean
15.Share the percentage marks for the year where you learnt from offline and mention the year also (if not reply "-") .	Male	44	77.06	15.962	2.406
	Female	24	84.59	8.929	1.823

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Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
15.Share the percentage marks for the year where you learnt from offline and mention the year also (if not reply "-") .	Equal variances assumed	2.865	.095	-2.133	66	.037	-7.534	3.532	-14.587	-.481
	Equal variances not assumed			-2.496	65.925	.015	-7.534	3.019	-13.561	-1.507

13.

ANOVA

4.During online classes does technical problems discourage you.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8.256	3	2.752	3.004	.034
Within Groups	96.184	105	.916		
Total	104.440	108			

14.

ANOVA

5.Do you feel eye irritation during online classes.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.200	3	.400	.392	.759
Within Groups	107.149	105	1.020		
Total	108.349	108			

15.

ANOVA

6.Has Your Memory weakened due to online classes.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.412	3	1.137	.913	.437
Within Groups	130.735	105	1.245		
Total	134.147	108			

16.

ANOVA

7.Has online classes positively affected to interact with friends or strangers.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.407	3	.802	.655	.581
Within Groups	128.547	105	1.224		
Total	130.954	108			

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17.

ANOVA

8.Are you obsessed with mobile and laptop due to online classes.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.739	3	1.913	1.688	.174
Within Groups	118.995	105	1.133		
Total	124.734	108			

18.

ANOVA

9.Has online education positively affected your overall academic performance as compared

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.947	3	1.649	1.370	.256
Within Groups	126.375	105	1.204		
Total	131.321	108			

19.

ANOVA

10.Do you face difficulty concentrating online classes.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.810	3	.937	.956	.416
Within Groups	102.841	105	.979		
Total	105.651	108			

20.

ANOVA

11.How effective do you find online exams and assessments in measuring your true knowle

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.091	3	.364	.284	.837
Within Groups	134.561	105	1.282		
Total	135.651	108			

21.

ANOVA

12.Has online learning improved your research and self study habits.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.266	3	.755	.696	.557
Within Groups	113.973	105	1.085		
Total	116.239	108			

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22.

ANOVA

13.Do you believe online education helps in developing critical thinking and problem solving

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.306	3	.769	.894	.447
Within Groups	90.245	105	.859		
Total	92.550	108			

23.

ANOVA

14.Share the percentage marks for the year where you learnt from online and mention the ye

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	760.728	2	380.364	2.719	.074
Within Groups	8952.252	64	139.879		
Total	9712.980	66			

24.

ANOVA

15.Share the percentage marks for the year where you learnt from offline and mention the ye

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	649.783	2	324.892	1.622	.205
Within Groups	13020.913	65	200.322		
Total	13670.696	67			

25.

Correlations

		4.During online classes does technical problems discourage you.	10.Do you face difficulty concentrating online classes.
4.During online classes does technical problems discourage you.	Pearson Correlation	1	.281**
	Sig. (2-tailed)		.003
	N	109	109
10.Do you face difficulty concentrating online classes.	Pearson Correlation	.281**	1
	Sig. (2-tailed)	.003	
	N	109	109

**. Correlation is significant at the 0.01 level (2-tailed).

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26.

Correlations

		5.Do you feel eye irritation during online classes.	10.Do you face difficulty concentrating online classes.
5.Do you feel eye irritation during online classes.	Pearson Correlation	1	.472**
	Sig. (2-tailed)		.000
	N	109	109
10.Do you face difficulty concentrating online classes.	Pearson Correlation	.472**	1
	Sig. (2-tailed)	.000	
	N	109	109

**. Correlation is significant at the 0.01 level (2-tailed).

27.

Correlations

		6.Has Your Memory weakened due to online classes.	10.Do you face difficulty concentrating online classes.
6.Has Your Memory weakened due to online classes.	Pearson Correlation	1	.415**
	Sig. (2-tailed)		.000
	N	109	109
10.Do you face difficulty concentrating online classes.	Pearson Correlation	.415**	1
	Sig. (2-tailed)	.000	
	N	109	109

**. Correlation is significant at the 0.01 level (2-tailed).

28.

Correlations

		8.Are you obsessed with mobile and laptop due to online classes.	10.Do you face difficulty concentrating online classes.
8.Are you obsessed with mobile and laptop due to online classes.	Pearson Correlation	1	.271**
	Sig. (2-tailed)		.004
	N	109	109
10.Do you face difficulty concentrating online classes.	Pearson Correlation	.271**	1
	Sig. (2-tailed)	.004	
	N	109	109

**. Correlation is significant at the 0.01 level (2-tailed).

29.

Correlations

		14.Share the percentage marks for the year where you learnt from online and mention the year also (if not reply "-").	15.Share the percentage marks for the year where you learnt from offline and mention the year also (if not reply "-") .
14.Share the percentage marks for the year where you learnt from online and mention the year also (if not reply "-").	Pearson Correlation	1	.512**
	Sig. (2-tailed)		.000
	N	67	66
15.Share the percentage marks for the year where you learnt from offline and mention the year also (if not reply "-") .	Pearson Correlation	.512**	1
	Sig. (2-tailed)	.000	
	N	66	68

**. Correlation is significant at the 0.01 level (2-tailed).

