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Distance Online Exams in Rural India Amid COVID-19: The Engineering Student's Perspectives

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Abstract : The 2019 coronavirus disease pandemic has shown no concern for artificial borders, and it only took three months to a standstill in the world. During the lockdown period of the COVID-19 around the globe, the entire educational system level has suddenly collapsed. The students' attitudes of distance online exams during the COVID-19 pandemic among engineering students in rural areas of India were analysed in this study. A survey of 11 questions was prepared and distributed among 858 engineering students of the Gujarat Technological University (GTU), India. The questions include students' demographics, exams preferences, academic dishonesty, stress experience, factors affecting students' preference for distance online exams, factors related to students' exam dishonesty and measures that can be considered to reduce this behaviour and factors contributing to stress as well as behavioural changes related to distance online exams. The descriptive, cross tabulation, and Chi-square tests were used to interpret the data. The results of survey highlighted that approximately 41% students preferred distance online exams. This was significantly associated with student gender, academic degree, effort and time for distance online exams preparation and academic achievements. The main measures considered by students to reduce exam dishonesty included proctoring solutions during online exam. Only 26% students agree with merit-based promotion. About 15% students reported more stress with distance online exams. The internet connectivity and online exam platform appeared as the main factor related to stress in 64%, and 83%, respectively. Online exams had not negative impact on students' health.

Keywords :COVID-19; distance online exam; engineering students; India; perspectives; rural.

1. Introduction

On 30 January 2020 the World Health Organization (WHO) declared COVID-19 a worldwide public health emergency and a pandemic on 11 March 2020 (Cucinotta & Vanelli, 2020). The COVID-19 has now been an extremely contagious diseases and illness caused by extreme acute coronavirus 2 respiratory syndrome (SARS-CoV-2), originated in China's City of Wuhan, and has become pandemic on all continents (Remuzzi & Remuzzi, 2020). COVID-19 is also the largest global health crisis in civilization after centuries, owing to its magnitude and fierceness. From global markets to social rituals (Schulten, 2020), latest corona virus

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destroyed everything. The International Labour Organisation (ILO) has therefore projected the loss of 195 million of workers (UNDP, 2020). The implementation of COVID 19 containment initiatives in their particular regions is one of the favoured approaches to reduce the effects of the crisis (De Brouwer et al., 2020). Today's lock-down is a common buzzword which was hit by the pandemic. In reality, the lock-down is a state of emergency procedure enforced by the responsible authority (the central and state governments) to prevent citizens from leaving their living resulting in mass quarantine and stay-at-home across the world since March 2020. The COVID-19 triggered a national lock-down for the first phase in India which occurred for 21 days starting from 25 March 2020, and consequently continued for 19 days from 15 April 2020 as the second phase; for the third phase, on 4 May 2020, for 14 days; on 18 May 2020, for the fourth phase; and, for 16 days, on 1 June 2020, only for containment zones. It is possible to a greater degree to control influence over the COVID-19 pandemic through people's ability to bring into effect strict precautionary steps, such as ensuring social distancing, observing the medical advice for quarantine, and enforcing proper hygiene and sanitation procedures (Khachfe et al., 2020).

The COVID-19 pandemic has caused an increasing demand for online education as the closure of all schools, colleges, and universities indefinite period (Martinez, 2020). In order to control the disease and flatten an epidemiological curve COVID-19, many countries, including India, introduced strict Non-Pharmaceutical Interventions (NPI) measures (Kheirallah, et al., 2020). Globally, universities have closed their campuses in part or in whole to reduce the rapid spread of SARS-CoV-2 contamination. The teaching and studying were interrupted (Bassett & Arnhold, 2020). Latest studies of academic institutions (N = 424, 109 countries) by the International Association of Universities (IAU) found that more than 90 percent of the institutions surveyed have replaced classroom teaching or are in the process of creating alternatives to distance education (Marinoni et al., 2020). Indeed, internet-based communications, videoconferencing applications, and educational blogs have made delivering the theoretical educational content much easier today (Natarajan, 2006; Suwanroj and Saeung, 2022; Syed et al., 2021; Alkhasawneh et al., 2024; Ana et al., 2022; Batra et al., 2021; Bhatt et al., 2023; Chandramohan and Pramila, 2022; Cong-Kien and Hung-Cuong; 2024).

India's top higher education regulator, University Grants Commission (UGC), has taken the new educational situation quite seriously and has made several constructive steps to overcome the deadlock in completing courses and exams in the current semesters, as well as a circular on the academic calendar, following the recommendations of one of the UGC's own committees. The completion of the 25% curriculum by online teaching and 75% face to face engagement is also needed for all universities in India (UGC, 2020). Without rigorous implementation of online teaching platforms, the educational scenario for the post-COVID-19 outbreak will not be straightforward. Having experienced the terrifying coronavirus beast, students will encounter many difficulties in upcoming time: quality instruction, hands-on experience, laboratory work, visits to library, tutoring, remedial learning, research and innovation.

During distance assessment various methods of assessment were implemented include synchronous and asynchronous measurement approaches, assignments, evaluation portfolios, queries with various options, open examinations and oral examinations for books (Khan, 2020). Despite this, it is important to apply steps to preserve academic credibility because of the risk of student exam dishonesty. This involve proctoring solutions, restructuring the online exam framework (using various forms, one-way examinations, decreasing questions, reducing time limits), and altering test mode (oral examinations, alternate assessments) (OECD, 2020). These initiatives would take extra expenditures, efforts, and time to introduce. Similarly, problems of grading and evaluation may exist particularly with practical courses with online exams. In comparison, anti-plagiarism must incorporate new techniques and/or technology as well as the avoidance of dishonesty (Basilaia & Kvavadze, 2020).

An acute health crisis can speed up the adoption and use of promising online assessment of students (OECD, 2020). However, the incidence of technical errors during online examinations remains likely also with advanced technological infrastructures (Hillier et al., 2020). Although several academic institutions have taken the online exams as their mode of evaluation, they were focused on in-campus online examinations (Dermo, 2009). Students undergo related treatments on the appropriateness of the examination environment, technological assistance and examination supervision during on-campus

online exams (OECD, 2020). However, distance online examination means that students will be assessed at home and encounter several other difficulties. Although these challenges have been identified during regular examinations, remote applications may have exaggerated them (OECD, 2020). These involve the potential technological problems compromising the feasibility of the examination and the potential rise in unethical activities among students (Chirumamilla et al., 2020). Distance online examinations do however face problems that may all have consequences for achieving the goal of learning itself (Mohmmed et al., 2020; Fajardo et al., 2022) due to the complexities in evaluating practical skills and knowledge.

The GTU adopted distance online teaching as a means of learning shortly after the Covid-19 pandemic was declared. Furthermore, during the pandemic, distance online exams were considered a mode of assessment for students' academic performance. The aim of this cross-sectional study was to use an electronic survey to examine the factors that influenced engineering students' experiences with distance online exams, as well as different aspects concerned with exam preferences, academic dishonesty, stress experience and factors associated with it in online mode of examination.

2. Method

The questionnaire was initially developed by five assistant professor who are responsible for educating students amongst various engineering discipline (Civil, Mechanical, Electrical, Computer, Electronics & Communication). Initially, the questionnaire was checked on 30 students, who accepted it, and then it was finalized and formally approved. A Google Forms was used to create the questionnaire and a link was sent to engineering students via WhatsApp. After three and six days, a follow-up reminder was sent. The questionnaire was received from 17/02/2021 to 03/03/2021 in the academic year of 2021-22 from the students studying in year 3rdand 4th.A total of 858 students (85.11%) responded to the survey out of the 1008 students of institute located in rural areas of the Dahod and Navsari city of the state Gujarat. The survey was conducted in three engineering institutes, namely, Government Engineering College Dahod, GIDC Degree Engineering College Navsari and S. S. Agrawal Institute of Engineering and Technology Navsari.

There were 11 questions in the study that gathered the students' demographics (gender, degree, and discipline) and expected to test the students' distance online exam experience primarily concerned with (1) factors that influence the choice of distant online examination compared to in-campus traditional/offline examination, (2) recognizing reasons contributing to the dishonesty/misconduct among students during distance online exams and steps that could be considered to mitigate this behaviour, (3) determining parameters impacting students' stress during distance online examination vs in-campus offline examination, and (4) identifying major behavioural variations during the distant online examination period.

The students were questioned regarding different variables which could lead to the choice of students for distant online examination. These involve examination considerations such as effort/time and online examination portal. Additional considerations include the academic performance of students (expected SPI and actual SPI). Students were also questioned regarding four suitable steps to minimize dishonesty in the examination. This involve proctoring options, reducing questions, oral exams and merit-based promotion. Questions on behavioural modification during the distant online examination involved the usage of medicine and medications to relief stress.

Statistical packages SPSS was used to analyse the data. Descriptive statistics were used to report the characteristics of participants, the and the choice for examination, and potential steps to mitigate the dishonesty of the exams. Cross-tab and Chi-square tests have been conducted to determine the correlation between students' preference for distance online exam and demographic factors, as well as the connection between exam-related factors and student achievement and identification of a connection between a student's exam stress and demographic influences, as well as a connection with factors that can lead to exam stress during distance online exams. The Chi-square test was also used to investigate the relationship between exam dishonesty/misconduct and students' gender and exam-related variables as well as the association between distance online exams and students' medications use during distance online tests.

3. Results

A. Characteristics of Students'

A total of 858 engineering students accepted to take part in the survey and completed the questionnaire. Almost 74.01% of the respondents were male. The majority of participants (83.22%) were belonging to Bachelor Degree. About half of the participants were from the Civil Engineering discipline (54.55%), and the other half were students from the Computer, Electrical and Mechanical Engineering (Table I). Table I shows the demographics of the participants.

Table 1 :
Students' Characteristics

VARIABLE	STUDENTS (NUMBER)	(%)
GENDER		
MALE	635	74.01
FEMALE	223	25.99
DEGREE		
DIPLOMA	110	12.82
BACHELOR	714	83.22
MASTER	34	3.96
DISCIPLINE		
CIVIL	468	54.55
COMPUTER	251	29.25
ELECTRICAL	91	10.61
MECHANICAL	48	5.59
TOTAL	858	100

B. Students' choice for exams

Students were questioned whether they preferred campus offline exam (i.e., traditional exam) or distance online exam (Table II). In the present study the online exam preference was asked considering in general. In- campus offline exams were favoured by the majority of respondents (508; 59.21%), while distance online exams were favoured by 40.79% respondents. This was shown to be significantly associated (P = 0.018, and 0.003) in relation to the students' gender and degree, respectively. Distance online exams were chosen by more than a half of students of the Diploma degree (55.45%) students opposed to students of the Bachelor and Master degree (38.94%, and 32.35%), respectively. Exam choice, on the other hand, was not shown to be related to students' discipline (P = 0.614).

Table 2 :
Students' Choice To Exam

VARIABLE	STUDENTS CHOICE TO EXAM		P VALUE*
	CAMPUS OFFLINE EXAMS (%)	DISTANCE ONLINE EXAMS (%)	
GENDER			0.018
MALE	56.85	43.15	
FEMALE	65.92	34.08	
DEGREE			0.003
DIPLOMA	44.55	55.45	
BACHELOR	61.06	38.94	
MASTER	67.65	32.35	
DISCIPLINE			0.614
CIVIL	60.04	39.96	
COMPUTER	56.25	43.75	
ELECTRICAL	56.57	43.43	
MECHANICAL	63.74	36.26	

* ANALYSIS WAS PERFORMED USING THE PEARSON CHI-SQUARE TEST

C. Factors related to students' preference of exams

Students were questioned about the variables that may influence their choice for exams (Table III). These include preparation time and effort, exam dishonesty, expected SPI, actual SPI and problem with online exam portal. A significant association was observed between students' exam choice and all studied factors, except expected SPI for online exam.

The majority of respondents (82.05%) stated that more time and effort had been spent preparing for in-campus offline exams relative to distance online examination. This was shown to have a substantial impact on students' choice for exams. The majority of students who preferred distance online exams and campus offline exams reported that more efforts/time were needed for exam preparation (72.86% and 88.39%, respectively) as for campus offline exams. This was shown to be statistically significant (P = 0.000) and has an effect on students' exam

Table 3
Factors That Could Affect Students' Choice For Exam

Variable	Total (%)	Student exam choice		P value*
		Campus offline exams (%)	Distance online exams (%)	
Time and effort in offline exam are more compared to online exam				0.000
Yes	82.05	88.39	72.86	
No	17.95	11.61	27.14	
The students do dishonesty during online exam				0.000
Yes	38.81	21.46	36.00	
No	61.19	78.54	64.00	
Facing problem related to online exam portal				0.000
Yes	72.38	17.52	57.71	
No	27.62	82.48	42.29	
Expected SPI for online exam is more than offline exam before COVID-19				0.098
Yes	45.34	52.36	38.86	
No	27.62	27.76	28.57	
No change	27.04	19.88	32.57	
Actual SPI for online exam during COVID-19 is more than offline exam				0.001
Yes	43.24	46.26	41.14	
No	26.69	25.39	28.86	
No change	30.07	28.35	30.00	

* Analysis was performed using the Pearson Chi-square test.

preferences, with most students preferring in-campus offline exams over online exams because they need more time and effort. Around two thirds (61.19%) students reported no exam dishonesty or misconduct. This is significantly related to the preference of students for examinations. The students who favoured distance online exams, 64% reported no misconduct and dishonesty relative to 78.54% of students who preferred in-campus offline exams. Regarding the students' response about online exam portal, the majority of the student's (72.38%) reported facing problem with online exam portal than percentages of students who agreed about no problem related to online exam portal. This was found to be statistically significant (P = 0.000) and affect the students' choice of exams, with most students who reported facing problem related to online exam portal preferred the in-campus offline exams.

Factors relating to students' academic achievements were examined to know how they influenced their exam choice. Of all students, 45.34% predicted their SPI to be higher with distance online exams, though 27.62% predicted a lower SPI. However, 43.24% of students had higher SPI when evaluated with distance online exams, while 30.07% reported no SPI changes and 26.69% had lower SPI. It was found that the real SPI had to be significantly associated with students' choice for exams. Of the students who preferred off line in-campus examinations, 46.26% reported that SPI was higher than usual. In contrast, 41.14% of students who chose distance online exams showed an improvement in their SPI.

D. Dishonesty in Examinations

Students were concerned regarding potential steps that should be considered to reduce the dishonesty of the exam. These involve proctoring, changes in

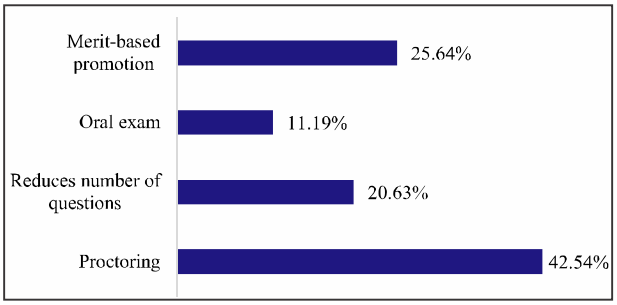

Fig. 1 : Students' desired methods for reducing exam dishonesty

examination structures (reducing questions), changes in evaluation mode (oral assessments) and consideration of the merit-based promotion. As seen in Fig. 1, the key measure considered by students involved the usage of online proctoring solutions. This measure was preferred by 42.54% of students. Modifications to the exam format, such as reducing the number of questions and considering merit-based promotion, were preferred only by 20.63% and 25.64% of candidates, respectively. Just 11.19% of students chose oral examinations as a measure to minimize the dishonesty of the exam.

E. Stress Levels for Distance Online Exams

Students were questioned about their experience of exam related stress. Fig. 2 shows that the maximum number of students (86.71%) self-reported exam stress. One-third of respondents replied in-campus offline exams were more stressful than distance online exams, while another one third believed both exams were stressful. In contrast, 15.27% of students said distance online exams were more stressful, although just 13.29% said neither distance online exams nor in-campus offline exams were stressful.

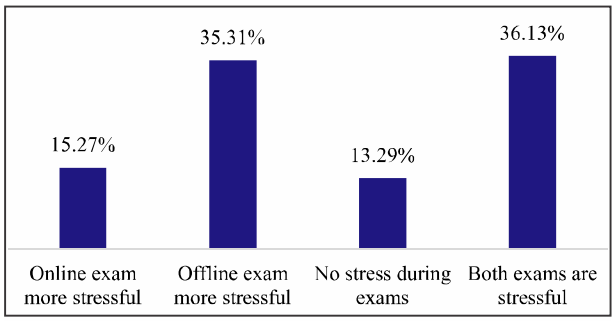

Fig. 2: Students' experience of exam related stress

Gender was shown to be a significant factor in self-reported exam stress (Table IV). In-campus offline exams was more stressful for 36.38% of female students in all disciplines, relative to 35.43% of male respondents. Females reported higher stress levels during in-campus offline exams, and registered higher stress levels for both exams.

Similarly, students' self-reported exam tension was strongly correlated with their academic degree (Table IV). Around 47.27% Diploma degree students reported offline exams were more stressful in comparison to Bachelor (35.01%) and Master degree (23.53%) students. But no significant association was observed between students' discipline and exam related stress (P=0.561).

F. Variables That Lead to Stress During Distance Online Exam

The students were questioned regarding five variables that might lead to stress. Table V shows the results of a Chi-square study of these variables and their potential relationship with students' stress levels during exams. A strong correlation has been found between the stress experience of the students during the exams and all the variables examined. Facing the online exam platform problem was also identified as a stress factor in 83.21% of students who found distance online exams to be more stressful relative to 75.25% of students who considered offline campus exams to be more stressful. The internet connectivity issue was recorded in 63.70% of students who considered distance online exams to be more stressful relative to 54.96% of students considered in-campus offline exams to be more stressful. Exam time was identified as a stress factor in 82.40% of students who deemed distance online exams to be more stressful compared to 88% of students who considered in-campus offline exams to be more stressful. Personal variables, including student SPI and dishonesty, have been identified as important factors that raise stress during distance online exams.

Table 4 :
The Association Of Students' Gender, Degree And Discipline With Exam Stress

Variable	Online exam more stressful (%)	Offline exam more stressful (%)	No stress during exams (%)	Both exams are stressful (%)	Total (%)	P value*
Gender						0.004
Female	16.38	36.38	8.52	43.95	100	
Male	12.11	35.43	14.96	32.28	100	
Degree						0.017
Diploma	18.18	47.27	7.27	52.94	100	
Bachelor	14.85	35.01	8.82	35.71	100	
Master	14.71	23.53	14.43	27.27	100	
Discipline						0.561
Civil	15.38	37.82	13.68	33.12	100	
Computer	13.15	33.86	12.75	40.24	100	
Electrical	19.78	34.07	9.89	36.26	100	
Mechanical	16.67	35.42	18.75	29.17	100	

* Analysis was performed using the Pearson Chi-square test.

G. Changes in Behaviour Over the Time of Online Distance Exams

The findings of the Chi-square tests for the relationship between student stress and behavioural modifications during distance online exams are shown in Table VI. There was a notable connection between students' exam stress and the usage of stress-relieving medications, as well as Yoga, among all students who took part in the study. Among students who reported more stress with distance online exams, 26.72% of the participants had used medications to relief stress compared to 28.71% considered in-campus offline exams are more stressful. The students' experience of stress during exams was significantly associated with Yoga, about 37.40% of students performed Yoga who reported more stress during distance online exams compared to 35.48% of students considered in-campus offline exams are more stressful.

4. Discussion

The world's higher education sector has adopted online teaching as a distance learning solution soon after the declaration of the Covid-19 pandemic. Moreover, online exams were taken from a distance and were deemed to be the main method of evaluation of students' academic achievement during the pandemic. Despite the fact that many educational institutes had accepted online exams years before the pandemic, they were still administered on-campus. As a result, distance online exams have posed significant concerns among educational establishments, faculties, and students. As a result, the students' perceptions of distance online exams were analysed in this cross-sectional analysis among students at GTU's engineering students. Students' preferences for distance online exams and in-campus offline exams are investigated. Exam dishonesty/misconduct was often looked at as one of the main disadvantages of distance online exams. Furthermore, the association between exam-related stress and possible factors leading to students' stress during tests, as well as a cluster of behavioural changes among students, is investigated in this study.

As opposed to campus offline exams, distance online exams were less favoured by 40.79% of students in this sample. This is the first time at GTU where students are solely educated through online learning and tested through distance online exams. The lack of familiarity between educators and students and the lack of basic criteria on the distance online exam platforms may have led to this response.

Table 5 :
Factors Associated With Exams' Stress

Variable	Total students (% of Yes)	Online exam more stressful (%)	Offline exam more stressful (%)	No stress during exams (%)	Both exams are stressful (%)	P value*
Facing problem related to online exam portal	72.38					0.00
Yes		83.21	75.25	72.81	64.84	
No		16.79	24.75	27.19	35.16	
Internet connection problem	55.36					0.01
Yes		63.70	54.96	53.04	68.28	
No		36.30	45.04	46.96	31.72	
Time/Effort in offline exam is morecompared to online exam	82.05					0.01
Yes		82.40	88.00	82.50	77.00	
No		17.60	12.00	17.50	23.00	
Actual SPI in online exam more than offline exam	45.34					0.00
Yes		39.69	40.59	48.25	51.29	
No		42.75	25.41	23.68	24.84	
No change		17.56	33.99	28.07	23.87	
The students do dishonesty during online exam	61.19					0.00
Yes		40.59	28.24	21.93	47.74	
No		59.41	71.76	78.07	52.26	

* Analysis was performed using the Pearson Chi -square test.

In this research, the majority of students indicated that more effort/time was required to prepare for campus offline exam relative to distance online exam. This was shown to be strongly correlated with students' tendency for in-campus examinations. The

Table 6 :
Behavioural Changes During Distance Online Exam

Variable	Total students (% of Yes)	Online exam more stressful (%)	Offline exam more stressful (%)	No stress during exams (%)	Both exams are stressful (%)	P value*
Have used medications?	24.71					0.002
Yes		26.72	28.71	10.53	25.71	
No		73.28	71.29	89.47	74.29	
Have done Yoga?	67.02					0.025
Yes		37.40	35.48	21.05	33.00	
No		62.60	64.52	78.95	67.00	

* Analysis was performed using the Pearson Chi - square test.

effort/time required could be linked to variable research materials/resources used during campus offline learning. Here in GTU, offline lectures are given by chalk and talk method simultaneously note down of lecture summary during class by the students. The latter involved preparation of lecture notes through text books available in the library, and online resources. As a result, students should have put more time into studying campus offline exams from all sources collectively.

A higher percentage of all respondents in this study said they had problems with the online exam portal. This was observed to have a substantial impact on the students' preferences, and may be attributed to the difficulties faced during the distance online test. For the success of online exams, it is important to provide a strong infrastructure/platform and a well-trained technical support staff. Due to the COVID-19 pandemic, educators faced many obstacles, including inadequacies with their online exam's knowledge, instruction, and assistance from instructional technology teams.

The student's SPI can lead to students' preference for offline campus exams. With distance online exams, about 45.34% of students surveyed in this study expected to have a higher SPI. Around 43.24% of students have a higher SPI after being assessed, which may have a significant impact on students' exam choice. Furthermore, a considerable portion of practical objectives of engineering curricula that were difficult to provide using online resources had placed students in extremely difficult circumstances (Al-Kadri et. al., 2020).

The second key part of this survey covered the investigation of dishonesty/misconduct as a significant obstacle to distance online examination (Gamage et. al., 2020; Eaton, 2020; Tuah & Naing, 2021). The students during in-campus offline exams receive different exam invigilation. Around 40% of students mentioned in this survey reported that they were dishonest in distance online exams. This was shown to be significantly related to the student's efforts/time spent preparing the exam. Recent studies have also revealed exam dishonesty as a barrier to distance online examination (Eaton, 2020; Guangul et al., 2020).

In view of all these findings, several educational organisations have recommended a number of steps to stop academic dishonesty (Tuah & Naing, 2021). In this report, the key steps suggested by students included using online proctoring solutions, reducing questions, oral exams and consideration of the merit based promotion.

The evaluation method can be influenced by student authentication testing systems (Mellar et al., 2018; Weiner et al., 2014). Online proctoring depends on a number of technological tools to avoid or minimise misconduct (OECD, 2020). Many educational establishments have used online monitoring services as appropriate measures for the control of distance online exams (Castano et al., 2020; Reisenwitz, 2020). Recent analysis evaluating non-proctored and proctored online exam results showed substantial variations in the test average between the two sections and advocated the need for proctored tests (Reisenwitz, 2020). Such programmes, however, need financial and human help. Moreover, a detrimental effect on students' mental health and well-being has recently been highlighted as an issue with the usage of online proctoring schemes (Eaton & Turner, 2020) and thus, educational authorities have proposed additional steps to avoid academic dishonesty (Guangul, et al., 2020; Ng, 2020).

In online exams, assigning different sets of test questions to different students decreases the probability of student interaction. During the pandemic, several colleges followed this strategy (Guangul et al., 2020). Exam designers, on the other hand, would need to spend more time and money in order to design a huge panel of questions. Furthermore, the questions should be at the same complexity level to maintain consistency and equality. It also has little use when used in conjunction

with other ways of cheating, such as looking up answers on the internet (OECD, 2020).

Just 11.19% of students thought conducting oral exams would be a good way to minimise exam cheating. Distance online examinations may be modified as synchronous oral examinations. Oral tests have other benefits, such as reducing the possibility of professional malfunction and allowing testing and marking to be adapted to students' specific circumstances and restrictions (OECD, 2020; Ng, 2020). Other educational organisations thought this was one of the easiest ways to minimise dishonesty (Guangul et al., 2020; Ng, 2020).

Nearly one third of students reported that in-campus offline exams were more stressful, while around a quarter of students reported that distance online exams were more stressful. The examination hall, lengthy question papers, long-answer questions, students sitting alongside during offline exams, the cases of question paper leaks, safety and security of questions might contribute to students' stress during offline exams. Participants' stress levels were shown to be related to their gender and degree. Higher proportion of students of Diploma degree reported more stress with both online and offline exams compared with Bachelor and Master degree students. This might be due to smaller age and immaturity related to engineering exams compared to Bachelor and Master degree students.

Female students showed more stress with distance online exams than male students, according to other research (Sreedevi, et al., 2016; Abdulghani et al., 2011; Eva et al., 2015; Hashmat et al., 2008; Babar et al., 2015). This may be due to the way female students respond to stressful situations, while male students are less expressive about their concerns (Babar et al., 2015; Al-Saleh, et al., 2010). These findings may be explained by differences in female emotional intelligence, exam tension, coping, and academic stress (Stankovska et al., 2018).

During distance online exams, technical issues (online exam portal or internet connections) were identified as sources of stress. Internet accessibility was also identified as a major problem in the online exam portal during the COVID-19 pandemic among students at Graphic Era Hill University in India, according to a recent report (Bisht et al., 2020). We anticipate that internet connectivity would be a problem for students from low-income backgrounds who do not have access to a computer or the internet. It may also be connected to where we live in Dahod, Gujarat, where internet access is still limited in rural areas. According to previous reports, concerns with the online exam portal may involve difficulties with recognizing the password, which may cause a delay in starting the exam (Wibowo et al., 2016; Thomas et al., 2002). Furthermore, as previously stated by Wibowo et al. (2016), issues with saving and restoring students' answers in the exam system are expected. As a result, a more stable platform is needed.

Academic dishonesty was also an issue of concern, especially among students who considered distance online exams to be more stressful. Taking distance online exams ensures that students can take the exam at home, which presents a number of problems, including the potential for an increase in unethical behaviour among students and the need to ensure that test takers are treated fairly (Chirumamilla et al., 2020). If used, student authentication checking mechanisms can have an impact on the evaluation method (Mellar et al., 2018).

Another portion of the study looked into how students behaved during distance online exams as opposed to in-campus offline exams. This was undertaken in an effort to determine the effect of distance online exams on students' behaviour during the pandemic.

Self-medication is a significant health issue for university students. Students' experience of stress during examinations was greatly correlated with medication, with 26.72% of students reporting more stress during distance online examination having more consumption of medication. Analgesics is the most often used medications (61.3%) (Alkhawaldeh et al., 2020). However, the analysis did not indicate if utilization was increased during the examination period.

Students' stress levels during exams were strongly linked to performance of Yoga, with 37.40% of students reporting greater stress during distance online exams and doing Yoga. Previously researchers have reported performance of Yoga to relieve exam stress (Malathi and Damodaran, 1999; Gopal et. al., 2011). According to Malathi and Damodaran (1999), Yoga has a beneficial function in not only reducing basal anxiety but also attenuating the rise in anxiety score during difficult situations such as exams.

Conclusion

Approximately 40% of engineering students in this cross-sectional survey chose distance online exams as a mode of evaluation during the Covid-19 pandemic. This seemed to be strongly correlated with the problem related to exam portal and the academic successes of the students. The findings of this analysis are very useful for the planning of academic strategies that can help to overcome the challenges distance online exams.

Exam cheating/misconduct seems to be one of the most significant issues with distance online exams, adversely impacting academic credibility.

During the Covid-19 pandemic, almost one third of students in this study said they were stressed by in-campus offline exams. The main factors related to students' stress include exam time/effort and students' dishonesty.

The students' experiences with distance online tests were found to have a detrimental effect on their health (use of medication) in this study. During the Covid-19 period, about one third of students who chose online distance exams did Yoga to relieve stress.

Moreover, on can one can study related to the aspect of type of question paper format for online examination (descriptive/ MCQ/ open book) and the student's preference for tools of the online examination as a future scope of the work.

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