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# THE STUDY OF COVID-19 PANDEMIC SECOND WAVE IMPACT ON STUDENTS STRESS PERCEPTIONS IN PUNE (INDIA)

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#### **ABSTRACT**

It has been almost 1.5 years since we are facing the COVID 19 pandemic. We could have hardly imagined the things the way the situation unfolded after detecting the very first positive case in India on 27<sup>th</sup> January 2020. It took almost 2 months after the first case detection for India to respond to the pandemic in terms of the first-ever lockdown in the last week of March 2020. No one knew what would have been done since this pandemic is very contagious and without any remedy when detected contaminated.

The very timing of this pandemic's entry into India and its rapid spread last year coincided with the examination period usually in almost all states of India. With no clear idea of the situation ahead, all examinations were initially postponed with the hope to control the situation at the earliest. But after the hopes were dashed, the lockdown became almost like a ritual with no remedy or control measure insight. This resulted in either cancellation of examination or indefinite postponements of various examinations.

Somehow various authorities could find some amicable way out of the situation with various never seen before solutions to equally never seen sort of problems in the education sector. We could somehow experience the relief out of the pandemic marred situation due to various initiatives of these authorities in the last academic year. But came the second wave insight of this COVID 19 pandemic, the things rapidly changed on all fronts including the education sector. This study is an attempt to capture the details of the changes in student's perception in this second wave of COVID 19 pandemic who are studying in Pune.

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Keywords- COVID 19 second wave, Stress levels in students in India, the impact of COVID-

19 pandemic on students

INTRODUCTION

As all of us had experienced the COVID 19 pandemic rapid spread saga last year, it had

delivered unrecoverable blows to our normal life. The term "new normal" came into existence

and has been declared to stay here forever as perhaps we could never restore the life as it was

before this COVID 19 pandemic.

Like all walks of life got severely impacted, the education sector too had taken a bow due to

many blows of the COVID-19 pandemic. We had seen how various education sector-related

authorities and agencies, departments, etc had tried to retaliate against this pandemic affected

situation with various measures like cancelling the examination, promoting students to higher

classes, exploring possibilities of online examinations etc. at various levels.

These levels included all students'; right from elementary schools to higher secondary

education with various boards of examinations like CBSE, ICSE and state boards to various

university-level graduation, post-graduation, diploma examinations etc and competitive or

recruitment board examinations. The students pursuing their education at various levels Class

10th. Class 12th and final year of graduation or post-graduation or qualifying year were badly

affected with no resort in view regarding the examinations, their results and subsequent options

for their higher education or various career opportunities.

Eventually, things started falling back to normal almost with various vaccines proving effective

after successful scientific trials insight for use world over. It was promising to provide relief

with hopes to restore normalcy in day to day life. Various governments started declaring how

their efforts helped to control the situation and what the plans are like. With all these clues

insights, the majority of individuals either became lethargic, overconfident or simply negligent

of the further spread of COVID 19. The experts were warning of the hidden dangers still lurking

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out there and waves of the pandemic in near future in absence of necessary care and failing to observe hygiene protocols and practices.

All of us are now be termed collectively responsible for inviting the second wave of the pandemic with even more devastating effects on the day to day life. It further impacted the morale of all of us very badly and despite what would have been our best defense forward i.e. vaccination became difficult day after day and month after months.

We had just started experiencing relief at the education front too with some rescue act in the last academic year. And when it was about time to lift all sanctions and start the education as it was earlier in normal condition before the pandemic, there came the tsunami of COVID-19 pandemic second wave. Even though it was not unexpected, it delivered a very frightening and mighty blow for all of us including the student community. It badly impacted student's morale and proliferated further the stress to new high levels.

## RESEARCH METHODOLOGY

In an attempt to understand the student's perception concerning various parameters, this study was conducted from 24th May to 31st May 2021 with first and second-year junior college and first-year, second year as well as third-year graduate college students from Pune (India) as participants. This sample consists of a total of 284 students from Pune's various colleges and classes who had participated in the online survey. Since Pune is one of the famous education hubs in India, these respondents included students from various places all over India. It attempted to capture the perception of students related to various parameters like their personal relationships, academic life etc. on 5- points Likert scale.

As matter of fact, this survey period is coinciding with the peak of the second wave of the COVID 19 pandemic in India. The colleges were about to open from mid-February, 2021 after the first wave appeared to be almost subsiding. But in absence of proper care and failure to follow health protocols, paved the way for the second wave and subsequently extended the lock down as well college closures throughout India. This second wave of COVID-19 had badly

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Volume 2 Issue 3 [June - July 2021] © 2015-2021 All Rights Reserved by The Law Brigade Publishers affected the student's morale as the fractions of hopes to attend college at least for a couple of weeks or months got dashed very badly. Among these, there were many first year students of junior as well as graduate colleges who had even not visited college even once literally.

The participants were sent a link to Google forms after giving them a brief idea about this study, and the participation was voluntary with assurance about the confidentiality of the data. The questionnaire included two parts dealing with demographic information like Gender, Age, Year of study, the proposed 7-item COVID-19 Student Stress Questionnaire, and a measure for psychophysical health conditions.

The COVID-19 Student Stress Questionnaire specifically developed and validated by Zurlo et.al. was used to assess college students' perceived stress during the COVID-19 pandemic second wave lockdown. A 5-point Likert scale which consists zero being "Not at all stressful" to four being "Extremely stressful" was used for total 7 questions. As suggested by Lazarus et.al for this instrument design, perceived stress was operationalized based on transactional models of stress. Each question was developed to cover different aspects that could have been subject to variations due to the COVID-19 pandemic second wave lockdown, and, therefore, that may be potentially perceived as sources of stress (i.e., risk of contagion; social isolation; relationship with relatives; relationship with colleagues; relationship with professors; academic studying). The scale provides a Total Stress score ranging from 0 to 28.

## **OVER VIEW OF SAMPLE DATA**

Total 284 students had participated in this survey for this research. The details are shown in the tables below:

		Class					
		F.Y.J.C. (11th Standard)	S.Y.J.C. (12th Standard)	First Year of Graduation	Second Year of Graduation	Third Year of Graduation	Total
Gender	Female	21	15	22	34	31	123
Condo	Male	31	25	22	48	33	159

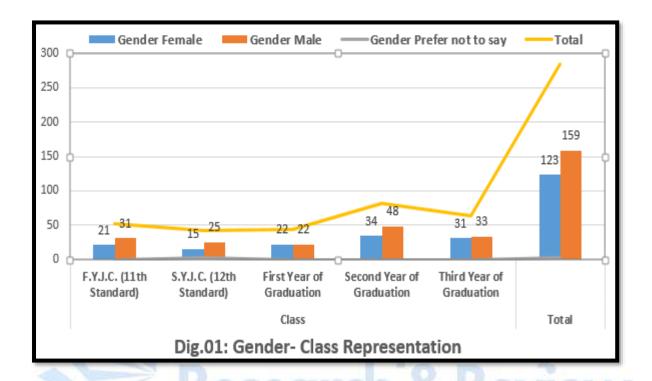
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	Prefer not to say	0	2	0	0	0	2
Total	I	52	42	44	82	64	284

Table 1: Gender \* Class Cross tabulation



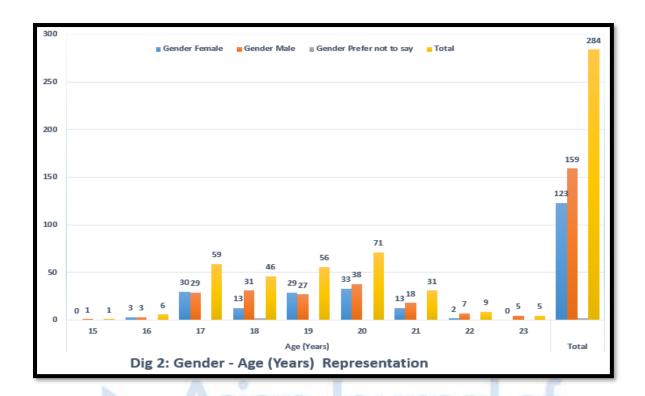
		Age	(Yea	rs)							Total
		15	16	17	18	19	20	21	22	23	Total
	Female	0	3	30	13	29	33	13	2	0	123
Gender	Male	1	3	29	31	27	38	18	7	5	159
25401	Prefer not to say	0	0	0	2	0	0	0	0	0	2
Total		1	6	59	46	56	71	31	9	5	284

Table 2- Gender \* Age (Years) Cross tabulation

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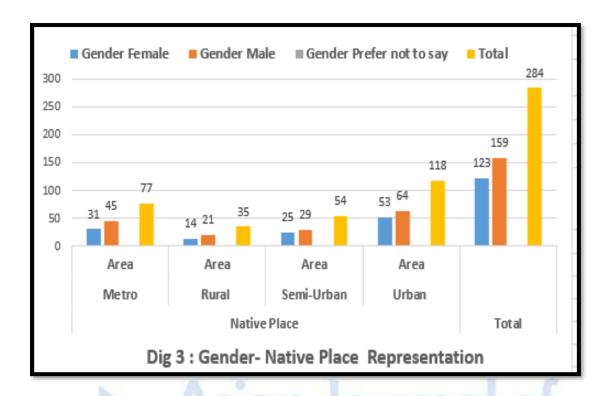
		Native Pla	ce			
		Metro Area	Rural Area	Semi- Urban Area	Urban Area	Total
	Female	31	14	25	53	123
Gender	Male	45	21	29	64	159
	Prefer not to say	1	0	0	1	2
Total	-	77	35	54	118	284

Table 3- Gender \* Native Place Cross tabulation

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Following were the hypothesis for this research:

# **Hypothesis 01:**

**H**<sub>0</sub>: There is no significant difference of gender on feeling related to risk of infection (FROI).

 $\mathbf{H}_1$ : There is significant difference of gender on feeling related to risk of infection (FROI).

#### **Hypothesis 02:**

**H**<sub>0</sub>: There is no significant difference of age on feeling related to impact of social isolation during this second wave of COVID-19 pandemic on their future plans (FSIFP).

**H**<sub>1</sub>: There is significant difference of age on feeling related to impact of social isolation during this second wave of COVID-19 pandemic on their future plans (FSIFP).

#### **Hypothesis 03:**

**H**<sub>0</sub>: There is no significant difference of native place on feeling related to relationship with relatives (FRR) during this second wave of COVID-19.

**H**<sub>1</sub>: There is significant difference of native place on feeling related to relationship with relatives (FRR) during this second wave of COVID-19.

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## **TESTS FOR NORMALITY:**

#### **Tests of Normality**

Variable	Kolmogo	rov-Smirnov	ì	Shapiro-Wil	k	
v arrabic	Statistic	df	Sig.	Statistic	df	Sig.
FROI	.223	284	.000	.892	284	.000
FCSI	.172	284	.000	.910	284	.000
FRR	.171	284	.000	.892	284	.000
FAFS	.181	284	.000	.897	284	.000
FATP	.174	284	.000	.884	284	.000
FAOE	.158	284	.000	.880	284	.000
FSIFP	.179	284	.000	.901	284	.000

a. Lilliefors Significance Correction

As we can see here, SPSS output above the probabilities are less than 0.05 (the typical alpha Level), so these data are significantly different from normal. We have to apply non-parametric test to test the hypotheses proposed above.

Some of the assumptions here are as follows:

- 1. The dependent variables feeling about the risk of infection in this second wave of COVID-19 pandemic (FROI), feeling about the condition of social isolation imposed during this second wave of COVID-19 pandemic(FCSI), feeling about the relationships with your relatives during this second wave of COVID-19 pandemic(FRR), feeling about the associations with your fellow students during this second wave of COVID-19 pandemic(FAFS), feeling about the associations with your teachers/professors during this second wave of COVID-19 pandemic (FATP,) feeling about your online education experience during this second wave of COVID-19 pandemic (FAOE) and feeling about the impact of social isolation during this second wave of COVID-19 pandemic on your future plans (FSIFP) here are measured at the ordinal level being ordinal variables which include Likert scales (e.g., where 0 indicates the feeling "not at all stressful" and 4 indicates the feeling "Extremely Stressful").
- 2. The independent variables gender (Male/Female/Prefer Not To Say), Age(From 15 Years to 23 Years), Native Place (Rural/Semi-Urban, Urban, Metro Area) and Class ( F.Y.J.C. Or 11th Std., S.Y.J.C. Or 12th Std., FY/SY/TY of Graduation) in this case

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consist of two or more categorical, independent groups or samples. So typically, a Kruskal-Wallis H test needs to be used since we you have three or more categorical, independent groups. We can use a Mann-Whitney U test too as it is more commonly used for two groups.

- 3. Here we have independence of observations, which means that there is no relationship between the observations in each group or between the groups themselves.
- 4. Here the observations are drawn from the population by the process of random sampling.

#### **HYPOTHESIS-1 TEST:**

Since all above assumptions are satisfied, Kruskal- Wallis H Test is used to test this hypothesis and results are as under:

D-	-	
RH	m	K.S

	Gender	N	Mean Rank	P
FROI	0	2	256.00	
	1	159	133.90	
	2	123	151.78	
	Total	284		

Test	t Statistics	a,b	
		FROI	
Chi-	square	7.623	
df		2	
Asy	mp. Sig.	.022	
a. K	ruskal Wall	is Test	
b.	Grouping	Variable:	
Gen	der		

A Kruskal-Wallis H test showed in this case that there was a statistically significant difference in feeling related to risk of infection (FROI) score between the different genders,  $\chi 2$  (2) = 7.623, p = 0.022, with a mean rank feeling related to risk of infection (FROI) score of 256.00 for gender not disclosed (Preferred Not To Say), 133.90 for Males and 151.78 for Females. Or in other words, we can conclude since the p-value (0.022) is less than the significance level (0.05), we reject the null hypothesis and conclude that there is no significant difference of gender on feeling related to risk of infection (FROI). So we conclude that there is significant difference of gender on feeling related to risk of infection (FROI).

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## **HYPOTHESIS-2 TEST:**

In this case also all above assumptions related to Kruskal- Wallis H Test are satisfied, and it is used to test this hypothesis and results are as under:

#### Ranks

	Age (Years)	N	Mean Rank
FSIFP	15	1	103.50
	16	6	205.25
	17	59	157.85
	18	46	132.65
	19	56	134.14
	20	71	152.23
	21	31	100.15
	22	9	164.39
	23	5	163.10
	Total	284	

Test Stati	stics <sup>a,b</sup>
	FSIFP
Chi-square	18.300
df	8
Asymp. Sig.	.019
a. Kruskal Wall	is Test
b. Grouping Va	riable: Age
(Years)	

In this case of hypothesis 2 , a Kruskal-Wallis H test showed that there was a statistically significant difference in feeling related to impact of social isolation during this second wave of COVID-19 pandemic on your future plans (FSIFP) score among the different ages,  $\chi 2$  (2) = 18.300, p = 0.019, with a mean rank FSIFP score of 103.50 for 15 years of age, 205.25 for 16 years of age and so on till mean rank FSIFP score of 163.10 for 23 years of age. Or in other words, we can conclude since the p-value (0.019) is less than the significance level (0.05), we reject the null hypothesis and conclude that there is no significant difference of age on feeling related to impact of social isolation during this second wave of COVID-19 pandemic on their future plans (FSIFP). So we conclude that there is significant difference of age on feeling related to impact of social isolation during this second wave of COVID-19 pandemic on their future plans (FSIFP).

#### **HYPOTHESIS-3 TEST:**

For the 3<sup>rd</sup> and final hypothesis too all above assumptions related to Kruskal-Wallis H Test are satisfied, and it is used to test this hypothesis and results are as follows:

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#### Ranks

	Native Place	N	Mean Rank
FRR	3	35	149.56
	4	54	146.87
	_ 5	118	143.26
	6	77	135.06
	Total	284	

Test Statistics <sup>a,b</sup>		
	FRR	
Chi-square	1.107	
df	3	
Asymp. Sig.	.775	
a. Kruskal Wall	is Test	
b. Grouping Va	riable:	
Native Place		

For the final or hypothesis 3, the results of a Kruskal-Wallis H test imply that there was no statistical significant difference of native place on feeling related to relationship with relatives (FRR) score,  $\chi 2$  (2) = 1.107, p = 0.775, with a mean rank FSIFP score of 149.56 for students with native place as rural area, 146.87 for students with native place as semi urban area, 143.26 for students with native place as urban area, as well as 135.06 for students with native place as metro area. Or in other words, we can conclude since the p-value (0.772) is significantly greater than the significance level (0.05), we cannot reject the null hypothesis and conclude that there is no significant difference of native place on feeling related to relationship with relatives (FRR) during this second wave of COVID-19.

#### FINDINGS AND CONCLUSIONS

This research tried to understand the feeling and fears amongst various students of various age groups, native places and gender during this second wave of COVID-19 using the COVID-19 Student Stress Questionnaire.

Here we can find that the stress of feeling of fear level varies as per the gender and ages of students. But it is same for all students irrespective of their native places. The researcher of this paper would have liked to further explore other relationships too but it is curtailed fearing the length of paper beyond particular page or word limit violations.

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# LIMITATIONS AND FUTURE RESEARCH

We must note the following pitfalls or limitations of this research as:

- 1. The questionnaire was administered online keeping in view the COVID-19 related health protocols of social distancing and restrictions posed by lockdown conditions. This ultimately restricted other participants without internet access. In future this can be avoided by including such left over participants in physical administration of questionnaire.
- 2. Secondly, the participants were students chosen conveniently and randomly with limited size of 284 only. To generalize the results we need large numbered and fairly representative samples are highly desired in future.
- 3. Thirdly, in this research students reported on their own which would have been biased by the risk of peer pressure or social desirability or lethargic approach. In future to avoid biases, we can include a broader range of sources of data.
- 4. Since this questionnaire is adopted without any change from one of the recent researches it needs more robust examination of reliability. It is required to seek more inputs about the factors that may induce stress amongst the students amid this COVID-19 pandemic second wave and the future waves if any.

This kind of research may be helpful to find out those students who may need counselling and psychological support to overcome stress induced by COVID-19 pandemic. All the negativity surrounding by the COVID-19 pandemic had certainly impacted our lives including students with reference to the relationships in daily life, loss of contact with formal and informal support networks and growing risk of isolation. So, the concerned authorities like educational institutes, practicing psychologists and department of education as well as various student related N.G.O's to work for careful monitoring of students perceived stress levels and taking care of students psychological wellbeing.

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