

# Covid Pandemic-Parents Concern on Higher Education

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*Abstract* - Due to the covid 19 pandemic, the world is currently using online schooling. In this new system, parents play a critical part in their children's education. This study focuses on the key worries that parents have as a result of the new system. A total of 100 data from parents with children in high school and higher secondary school were collected. To get at the final outcome, the data was analyzed using R programming language. According to the study, parents have a variety of viewpoints, such as trying to cope with the new mode owing to current issues, while others are more concerned. That is, parents are dissatisfied with online education and prefer traditional learning.

*Index Terms* - Covid-19, Online education, Parents concern, R-programming, Statistical tools..

## INTRODUCTION

One of the most highly debated epidemics in the world in the 21st century is Covid-19. The epidemic affects people's life in a variety of ways, including unemployment, a reduction in business ventures, a reduction in the agricultural sector, and so on. Industrial activities and tasks were moved to a "work-from-home" arrangement. To survive the Covid-19 outbreak, people had to confine themselves to their homes.

Similarly, students are confronting a situation where they must study from home using new technologies and applications and convert to an online education system. The online style of education cannot be compared to the traditional schooling system. Many key features of traditional education system are missing for youngsters. Schools provide a comprehensive framework for developing and enhancing student's future. However, students now lack many key venues on which to build their entire lives because of these online classes. Lack of connection and contact with others - when pupils lose friendships with their classmates, interactions become less frequent; lack of opportunity to show talents and skills such as sports, arts, etc. As a result, the mental capability to address a large audience is dwindling. Parents are concerned about their children's future careers and growth as a result of all these issues.

Parents must now spend more time with their children to monitor their academic progress. In terms of continuing online education, parents want to ensure that some key areas are addressed, such as greater knowledge of subjects, whether the children are paying attention in class, and so on. If both the father and mother of a kid work, they must set aside time after their regular working hours to inspect their children. Due to the current crisis, online education is the only viable option for moving the educational system ahead. Even if teachers and other responsible authorities are doing their best, parents must take charge of their children's education.

## SIGNIFICANCE

Our traditional system of education system has been transformed to an online mode of schooling due to the widespread Covid -19 conditions around the world. Parents must be more attentive to their children's education through online mode to keep them on track. In this survey, we look at parents' involvement, opinions, and worries about their children's education. Our aim is to analyze is this new kind of online educational system satisfying for parents.

## OBJECTIVES

To determine whether parents are having difficulty in aiding their children to attend online classes.

To determine whether parents have access to a segment where they can communicate with teachers.

To see whether parents offer any extra tutorial classes in addition to the online sections.

Determine whether parents are experiencing any anxiety as their child progresses through higher grades because of continued online education.

Evaluating whether parents are concerned about their child's future admission.

## LITERATURE REVIEW

Seema Malik, Harish Kumar Tyagi; A study of parent's opinion on online teaching in Delhi-NCR schools.

The poll focuses on the views of parents in Delhi-NCR schools regarding online education. With study summons for the entire school system around the world, Covid-19 has caused a lot of havoc. Students and teachers have become accustomed to gathering

and interacting daily to carry out the teaching and learning in the classroom, but children find it difficult to participate in this educational system. Parents of primary and pre-primary students are now attempting to bring their children back to the computer screens and to stimulate their curiosity in what is going on. Many parents are enraged and believe that their children do not have a clear perception in real classrooms, so how will a computer screen make any sense to them? Others believe that what happens in the classroom is more detrimental than beneficial, and that holistic growth of children is impossible to achieve. A standard report card that does not include evaluations of communication skills, vocabulary, critical thinking, and scientific ability reveals that children's growth is not being met. As if all of this was not disheartening enough, parents are also not on the school's side. Many parents have expressed dissatisfaction with the structure and method of online classes.

The pandemic has placed an additional responsibility on parents to supervise their children while they are in online class, particularly at the primary level. According to a study, parents face numerous challenges in assisting their young children in attending and concentrating on virtual lessons. 70% of parents are concerned about the harmful impact of virtual teaching on their children's education. Despite these concerns, 68.35% of parents do not want their children to return to school until the pandemic has been brought under control. The pandemic has also had a significant impact on people's behavior around the world, with far-reaching consequences for schoolchildren. There are numerous survey outcomes for grades Nursery through II. Around 55 percent of respondents believe sessions should be only one hour, while 36.5 percent prefer two hours. Similarly, 41.7 percent believe that teaching methods can be improved, while 30 percent believe that individualized attention can improve the studies. Parents believe that individualized sections can provide them with more in-depth understanding of the subjects. In terms of the effects of online classes on student health, 74 percent believe it has an impact on their child's health, and 76 percent strongly agree that online classes are necessary in the current situation with the proviso that class hours be reduced. For children in classes III to V, similar types of viewpoints exist.

According to the survey, school authorities and parents must collaborate to create a positive learning environment for students, and they must always be aware of providing them with the necessary resources and learning environment. Because lower-level kids rely more on their parents, schools should take the lead in providing vital information about digital technologies to parents. Since the children are unable to communicate with their peers and teachers, it has fallen on the parents to fill the void, which most of them find challenging. As a result, it is critical for parents to be physically, technically, and emotionally ready for any future events.

Dr Kannamani Ramasamy, Jayakumar Sundarraj. COVID-19 Impact on Managing School Education: A Critical Review of Online Class from Parents Perspective.

The study analyses the primary reason for school pupils taking online cybernated classes and attempts to assess the necessity for education. The authors are lying to gain the parents' opinion on topics such as the interest of parents and students in online classes, the financial stability of parents, the consequences on the mental and physical health of pupils, and so on. The study's major goal is to determine the full impact of the covid-19 pandemic on school education as well as parents' perceptions of the online classes that have sprung up because of the pandemic. Contributors and sample size are included in the methodology, as well as the creation of a questionnaire, data collecting, tools and procedures, and hypothesis generation. The study focuses solely on the new online method of teaching, which was just a solution for normal schooling during the covid-19 pandemic and does not address the broader online sections or courses for higher education, which is the study's limitations. They divide the respondents (parents) into groups based on gender, educational qualifications, state of residence, and the number of working parents (both or single parent is working) to conduct the study.

Since this study focuses mostly on school kids, they additionally separate students based on the type of school they attended (private, govt and govt aided). Then they wanted to know if parents were ready to conduct online classes, and 57.4 percent said they were not, 24 percent said they were, and 18.3 percent said they were unsure. Similarly, 78 percent of respondents thought that their children will endure mental and physical problems because of online schooling. 7 percent said they disagreed, and 15% said they were undecided. The accessibility of online gadgets is also a significant consideration. 51.7 percent said they have appropriate instruments to utilize, 38 percent said they do not, and 10.3 percent said they are not sure. So, 51.7 percent of children have instruments; yet, we cannot say that everyone is happy; we must also consider the remaining number of students and their parents who have limited financial resources. As a result, the study focuses on some additional concerns, such as whether they have enough space or equipment in their homes, whether conducting online classes would result in the same level of productivity as conducting classroom sections, and so on.

"Parents believe that online classes are neither appropriate or required for school pupils during Covid-19; similarly, parents are concerned that supplying students with mobile, desktop, and tablet devices will have a negative impact on their physical and psychological health." The study concluded that, due to the global pandemic condition, traditional schooling is no longer feasible, hence our educational system has opted for online digital classrooms; Because everything around us has both positive and negative effects, like two sides of a coin, a few parents may be dissatisfied, so it's critical to assess the obstacles of online classes and figure out how to conduct them with the least amount of negative influence possible.

## METHODOLOGY

The statistical field is mostly addressed by qualitative and quantitative analysis. Statistics is a set of rules that govern the coordination, inspection, explanation, and distribution of data. We have used a quantitative survey method to carry out the work. The survey technique is a statistical term that explains the process of selecting a constituent from a target population to perform a

survey. We created a comprehensive form and circulated it online to parents of students in high school (HS) and higher secondary school (HSS). Major findings are based on the 100 data obtained through the survey method.

*R programming language*

The programming language R, developed by Ross Ihaka and Robert Gentleman in 1993, is a free software. R has a comprehensive statistical and graphical process catalog. In a sequence of steps, data analysis with R is performed by programming, transforming, finding, modeling, and communicating the results.

*ANOVA*

ANOVA is a collection of demographic models and their corresponding gauging processes for analyzing mean differences. It is based on the law of total variance, which divides observed variation in a single variable into components that can be explained by several sources of variation. Ronald Fisher, a statistician, developed the ANOVA test.

*T- test*

The T-test is a statistical test that is used to investigate hypotheses using the mean of a small sample of residents when the standard deviation of the residents is unknown. The ‘T- test is done to evaluate if there is a significant difference between the means of two classifications.’

**RESULTS AND DISCUSSION**

We received 100 responses in total, in which 55 responses are from parents of higher secondary school students and 45 coming from parents of high school students. Here, we attempt to highlight the most important elements that affect pupils in the tenth and twelfth grades. There are 41 students in the tenth section and 33 students in the twelfth section of the 100 responses. There are 19 CBSE and ICSE students among the 41 students in the tenth grade, while 22 follow the Kerala curriculum. In the same way, 15 of the 33 students in the twelfth grade are from CBSE and ICSE, while 18 are from Kerala. The remaining 26 pupils, out of a total of 100, are in the eighth, ninth, and eleventh grades. The most critical factor is that we discovered 20 students out of the 100 respondents do not have access to an online class. These 20 students include pupils from 10th and 12th grades. From this we can understand that there are parents who are unable to supply their children with the essential equipment and study materials.

To determine whether parents are having difficulty aiding their children in attending online classes

**TABLE 1. REACTIONS OF PARENTS IN HAVING DIFFICULTY TO ASSIST THEIR CHILDREN IN ONLINE CLASS.**

Response	HS	HSS
Yes	5	4
No	16	14
Sometimes	23	18

Table 1 depicts parents' reactions to aiding their children with their online academics. According to the findings, the parent's primary responsibility is to ensure that their children are attending online classes without indulging in any other activities. To procure the outcome ANOVA method is used and the null hypothesis is there is no significant difference between the concern of parents in HS and HSS.

R code for plotting graph:

```
x=matrix(c(5,16,23,4,14,18),nrow=3)
row.names(x)=c("Yes","No","Sometimes")
colnames(x)=c("HS","HSS")
total=margin.table(x)
total;
x
barplot(t(x),beside=TRUE,col=c("black","red"),xlab="Responses",ylab="No of parents",legend.text =
(c("HS","HSS")),args.legend = list(x='topleft'))
```

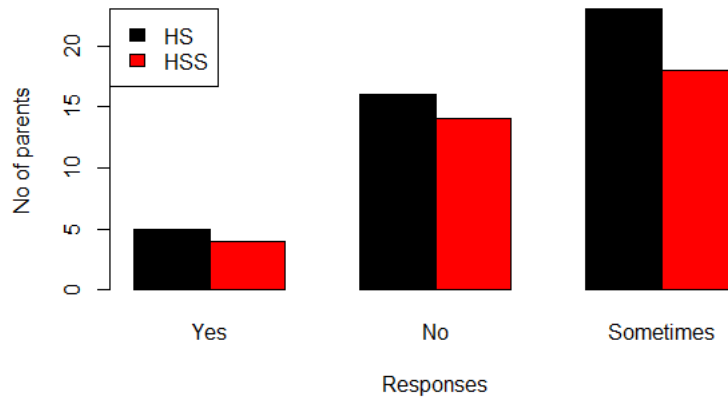


Fig 1. Parents difficulty in assisting children

Interpretation: The graph above depicts the difficulties parents confront when enabling their children to attend online classes. We are comparing high school and higher secondary students here. We received 100 responses, with roughly 80 having proper online classes and 20 not having proper online classes. About 44 of the 80 respondents were parents of high school students, while the remaining 36 were parents of higher secondary students. In the HS category, 63.6 percent of parents have problems, while 36.4 percent have no problems. In the HSS category, 61.2 percent of parents have problems, while 38.8 percent have no problems. So clearly, we can see that parent of both HS and HSS are facing the same pitiful state.

```
R code for ANOVA:
HS=c(5,16,23)
HSS=c(4,14,18)
combined_groups=data.frame(cbind(HS,HSS))
combined_groups
summary(combined_groups)
stacked_groups=stack(combined_groups)
stacked_groups
anova_results=aov(values~ind,data = stacked_groups)
summary(anova_results)
```

Table 2. ANOVA table.

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
ind	1	10.67	10.67	0.159	0.711
Residuals	4	268.67	67.17		

The hypothesis is accepted since the p value is greater than the level of significance. Table 2 shows that there is no significant difference in parental worry between HS and HSS students that is, parents are finding it tough to assist their children with their schoolwork.

To determine whether parents have access to a segment where they can communicate with teachers.

Table 3. Parents' reactions in having a section with teachers.

Response	HS	HSS
Always	11	14
Never	4	12
Sometimes	30	29

The table depicts the level of communication between parents and teachers. The majority of parents agreed that regular interaction between instructors and parents is crucial and required, and many believe it should occur once a month. The null hypothesis states that there is no significant difference between the response of parents about communication mode. To obtain the result ANOVA method is used.

```
R code for plotting graph:
y=matrix(c(11,4,30,14,12,29),nrow=3)
row.names(y)=c('Always','Never','Sometimes')
```

```

colnames(y)=c('HS','HSS')
total=margin.table(y,1)
total
y
barplot(t(y),beside = TRUE ,col = c('violet','yellow'),xlab = 'Responses',ylab = 'No of parents',legend.text =
c('HS','HSS'),args.legend = list(x='top'))

```



Fig 2. Communication status-between parents and teachers

Interpretation: By examining the full graph, we may deduce that only a small percentage of parents have adequate communication with their children's teachers. Out of 100 data, 25% of parents have good communication with their children's teachers, while 16% have no communication with their children's teachers. However, 59 % of parents communicate frequently.

R code for ANOVA:

```

HS=c(11,4,30)
HSS=c(14,12,29)
combined_groups=data.frame(cbind(HS,HSS))
combined_groups
summary(combined_groups)
stacked_groups=stack(combined_groups)
stacked_groups
anova_results=aov(values~ind,data = stacked_groups)
summary(anova_results)

```

Table 4. ANOVA table.

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
ind	1	16.7	16.67	0.125	0.742
Residuals	4	534.7	133.67		

The hypothesis is accepted since the p value exceeds the level of significance. So, from the Table 4 we can observe that there is no significant difference between the response of parents about communication mode. At least once a month, parents require an interactive segment with teachers.

To see whether parents offer any extra tutorial classes in addition to the online sections.

Table 5. Parent responses in giving tutorial classes in addition to online classes.

Responses	HS	HSS
Yes	29	29
No	16	26

In addition to online classes, the graphic highlights the need of supplemental tutorial classes supplied by parents. Parents believe it is necessary because of issues such as a lack of understanding, inappropriate lessons, and lagging portions, and many others. ANOVA is used and the null hypothesis is taken as there is no significant difference between the response of parents in providing additional classes in both sections.

R code for plotting graph:

```

p=matrix(c(29,16,29,26),nrow = 2)
row.names(p)=c('Yes','No')
colnames(p)=c('HS','HSS')

```

```
total=margin.table(p)
total
p
barplot(t(p),beside = TRUE ,col = c('orange','green'),xlab = 'Responses',ylab = 'No of parents',legend.text =
c('HS','HSS'),args.legend = list(x='top'))
```

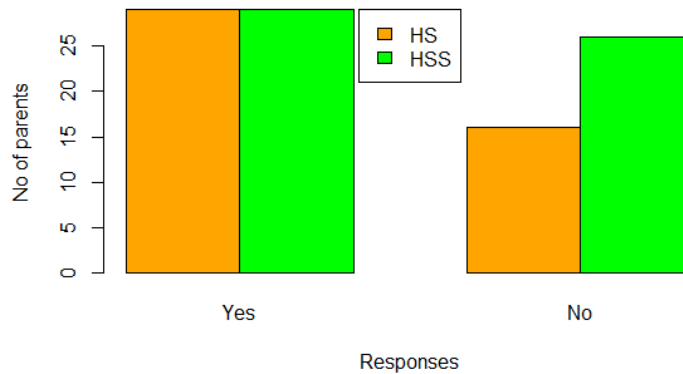


Fig 3. Role of tutorial classes

Interpretation: According to the graph, the majority of parents are enrolling their children in additional tutorial lessons in order to help them keep up with their studies. As can be seen from the graph, more than half of the respondents (58 percent) provide additional classes.

```
R code for ANOVA
HS=c(29,16)
HSS=c(29,26)
combined_groups=data.frame(cbind(HS,HSS))
combined_groups
summary(combined_groups)
stacked_groups=stack(combined_groups)
stacked_groups
anova_results=aov(values~ind,data = stacked_groups)
summary(anova_results)
```

Table 6. ANOVA table

	Df	SumSq	Mean Sq	F value	Pr(>F)
ind	1	25	25.0	0.562	0.532
Residuals	2	89	44.5		

The hypothesis is accepted since the p value is greater than the level of significance. The above chart shows that there is no significant difference between the response of parents in providing additional classes in both sections that is students must attend extra tutorial lessons in addition to online classes due to the ongoing pandemic issue.

Determine whether parents are experiencing any anxiety as their child progresses through higher grades because of continued online education.

Table 7. Parents response on anxiety.

Responses	HS	HSS
Yes	29	33
No	7	9
Sometimes	9	13

The table displays parents' concerns about the ongoing online lesson. The topics in both sections (HS, HSS) are essential to their future studies, but students do not take classes seriously and are less interested in taking online classes.

```
R code for plotting graph
z=matrix(c(29,7,9,33,9,13),nrow = 3)
row.names(z)=c('Yes','No','Sometimes')
colnames(z)=c('HS','HSS')
total=margin.table(z)
```

total

z

barplot(t(z),beside=TRUE,col=c('skyblue','pink'),xlab = 'Responses',ylab = 'No of parents',legend.text = c('HS','HSS'))

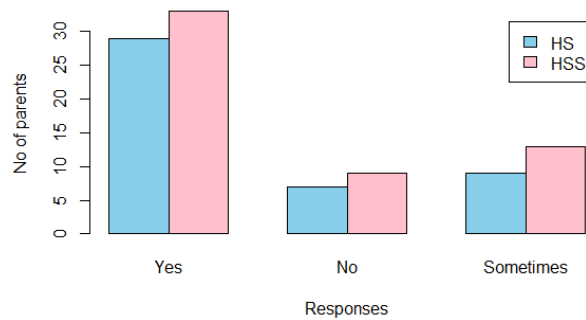


Fig 4. Parents anxiety

Interpretation: As their child progresses through the grades, the chart illustrates that parents are concerned about their child continuing to take online classes. HSS parents are more concerned about their children's future. Sixty-two percent of parents are concerned, while sixteen percent are unconcerned. 22% of parents are concerned at times.

Evaluating whether parents are concerned about their child's future studies.

Table 8. Parents' reactions to their worries about their child's future studies.

Responses	HS	HSS
Yes	41	47
No	4	8

The table depicts parents' reactions to their children's future studies. Parents of students in the tenth and twelfth grades are particularly anxious about their children's future and career prospects. Here also t test is procuring the outcome and the null hypothesis states that there is no significant difference in parents' reaction to child's future studies in both sections (HS, HSS).

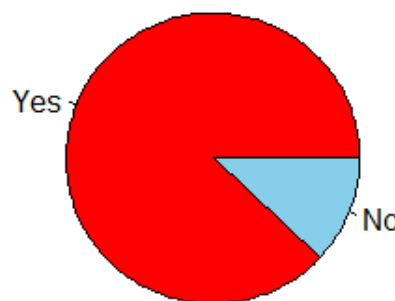


Fig 5. Parents concern-about future studies

Interpretation: The majority of responses indicate that parents are concerned about their children's future education. Parents are concerned that their children will receive a good education or find a good job as a result of this new online method of instruction.

R code for t test

a=c(41,4)

b=c(47,8)

combined\_groups=data.frame(cbind(a,b))

combined\_groups

summary(combined\_groups)

result=t.test(a,b,paired = TRUE,alternative = 'two.sided')

result

T test result

Paired t-test

data: a and b

t = -5, df = 1, p-value = 0.1257

alternative hypothesis: true difference in means is not equal to 0

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95 percent confidence interval:

-17.706205 7.706205

sample estimates:

mean of the differences

-5

Since the p value exceeds the level of significance the hypothesis is accepted. The result shows that there is no significant difference in parents' reaction to child's future studies in both sections (HS, HSS). It is obvious that parents are concerned about their children's future academic prospects.

### CONCLUSION

Following the epidemic of Covid-19, educational systems all over the world switched to a new method of education known as "Online educational system." As a result of the research, it was discovered that in our traditional education system, students play a larger role than parents. Students must be more responsible in their educational pursuits; parents must keep a close eye on their children's overall performance and offer them with every advantageous chance.

However, in this new mode, both students and parents play an equal part, and parents occasionally take the lead. Parents are extremely concerned about their children's education. As we all know, every parent's background is different. Some are well-educated, while others are not; some have both father and mother working, while others have only a single parent working, and so on. As a result, the primary responsibility of parents is to first understand how online education works and then to offer the required resources and classroom atmosphere.

Many of the respondents' (parents') worries and opinions were raised in the questionnaire. The most common concern expressed by these parents is that their children are not fully engaged in online classes, preferring instead to focus on other activities such as utilizing social media, speaking with friends, and so on. Another issue is that children are developing health problems such as headaches, eye disorders, and back pain as a result of spending more time in front of electronic devices.

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