

# Parental Perception towards Feasibility of On-Line Learning Process during Covid-19 Pandemic Situation

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## Abstract

Parents' perception regarding children's education is one of the important predictors for children's academic and social development. This study tries to identify the parental perception towards on-line education during the unexpected pandemic situation. The study has been conducted by the researchers for identifying the latent factors controlling the parental perceptions regarding adequacy and efficiency of online teaching in this new normal situation. The researchers identified 5 latent factors from 21 variables, controlling the parental perceptions regarding online learning. It is also observed that two important factors have significant impact on parental perceptions regarding feasibility of online education system. The findings positively demonstrated that the institution should provide high considerable attention in terms of academic resources for students' future upliftment.

**Keywords:** Alternative Feasibilities, On-line education, Parental perception, *Social distancing*, Technical Accessibilities.

## Introduction

On 24 the March 2020, the news came as a bombshell for all, the Government of India ordered a nationwide lockdown for 21 days for the preventive measures against the COVID-19 pandemic in India. Due to COVID-19 pandemic the whole world became deadlocked and the word '*social distancing*' or '*physical distancing*' came in our social life and it was also found that severe lockdowns across the world have forced people to find innovative ways to do their routine jobs. The worldwide education system has also affected during this pandemic situation and India was no exception. One of the first measures taken by the Government of India was to close the educational institutions for the safety of students, teachers, and their family members. It is needless to say that the steps were taken by the government were necessary to stop the further spread of the virus in the community as the disaster does not knock the doors before it appears, it appears into our life without giving us too much time for preparation. So, it was needed to control the conduction of Covid-19 to segregate the students and the teachers. But this pandemic has changed the centuries-old chalk-talk teaching model to e-learning teaching method.

## Significance of the Study

During this unexpected pandemic situation, traditional face-to-face teaching learning procedure has been widely replaced by on-line teaching learning procedure to maintain the new phases in education that is "suspending classes without stopping learning" (W.Zhang.et.all.,2020). In this regard, collaboration between teacher and parent should be an integral part of education irrespective of holistic development of the children. The attitude of parents towards education has always been an essential part for better teaching learning endeavor. The enthusiastic role of parents towards learning not only improves morality, attitude and academic achievement of but it also promotes better behavior and social adjustment.

This unprecedented situation is not only a different concept for the learners but also for the parents and teachers also. It is very difficult for parents to maintain an added responsibility regarding on-line education with their routine personal engagement, work from home etc. But when a teacher observes that parents are active and supportive regarding their children's education, the institutions and teachers both are motivated and more active to support the initiatives of the parents. This pandemic situation motivated the academic institutions to go with online education.

Teachers as well as students are exposed to many new platforms such as Zoom, Microsoft teams, Google hangouts, and Google Classroom, WebEx meet and other virtual platforms. But there are a number of challenges from the perspectives of learners as well as academicians to shift from offline to online mode of learning. In this regard, present study analyse the parents' attitude towards students' on-line teaching process during Covid-19 pandemic situation.

## Review of Literature

On the basis of the parental attitude towards online teaching during COVID - 19, the researcher has gone through so many literatures at international, national and regional level. After a minute screening of all available literatures, the researcher has mentioned some pertinent and relevant literatures below:-

Kim (2020) stated that the best way of teaching depends on the hands-on training. This descriptive study also advised to implement required instructional methods in colleges jointly with the schools and families of the students for learning and teaching more efficiently.

Sareen and Nangia (2020) showcased the attitude and challenges faced by the teachers and concluded that 82 % of the teachers were using online teaching process for the first time. The teachers were more effective in traditional teaching process as they were not enough equipped or well trained. The study also suggested awareness training programmes on e-learning required by the teachers.

Kalimuthu and Saravanakumar (2018) focused on parental attitude among students studying in higher secondary school. The administration and the teachers have become more motivated to support the initiatives taken by the parents'. The researchers recommended that parents' pressure and anxiety would increase level of learning orientation among their children.

Abdallah (2018) elaborated the perception of the parents of Abu Dhabi Schools using mainly primary survey regarding e-learning and concluded that teacher computer competence was very low but they are highly satisfied with the e-learning techniques initiated by the public schools as compare to those of the private schools. But it was found that the students' involvement in e-learning is highly appreciable.

Đurišić and Bunijevac (2017) replicate the involvement of the parents' in the learning activities of their children in school. The study also suggested that the participation of parents' would help the authority to gain knowledge about their expectations which might leads to better performances of the schools. Communications between parents' and the school administrators would result to a positive future.

MikelićPreradović, Lešin and Sagud (2016) stated in their study that online teaching which a part of digital technology is should not replace offline teaching. The students are available with all modes of digital equipments but the parents are not anxious enough to allow their children to digital technologies.

Paul (2004) focused on the differences in preference of secondary students of Adelaide

regarding online web assisted learning with paper assisted learning and it was found that students have positive attitudes towards online web assisted learning. The students supplement their web learning in home if it was not available in schools. Web learning was more appealing to the male students as compare to the female students.

## Research Gap

Based on the above extensive review of literature; it has been observed by the researchers that most of the researches have been made on this issue exist in outside India and in the school level, few literatures are based on National level and a limited number of researches have been made in West Bengal. Therefore, no comprehensive research work has been done parental attitude towards online teaching during COVID-19. So, the researchers have shown interest to engage into this interesting as well as challenging and very sensitive research venture.

## Objectives of the Study

The study is based on the following research objectives:

1. To understand the latent factors responsible for controlling the parental perception regarding feasibility of online teaching.
2. To find out which latent variables significantly impact parental perception and to what extent those factors explained the variation.

## Research Methodology

The study has been conducted by the researchers for indentifying the latent factors controlling the parental perceptions regarding adequacy and efficiency of online teaching in this new normal based on twenty one independent variables. Finally; researchers checked how much variation in parental perceptions, measured through a single question (apart from those 21 questions) is being explained by those explored factors having statistically significant relationship with that variable. Researchers collected data through structured questionnaire from 152 individuals, whose wards are studying in different classes ranging from class 5 to post graduation. Samples were collected from different districts of West Bengal. There were main 22 questions based on which research is being conducted, apart from some basic questions regarding identity and demographic features. All the responses of 22 questions were collected through 5 point ordinal scale. Then a correlation matrix is computed considering 21 independent variables. None of the variables has been excluded based on result obtained through correlation matrix. Then Exploratory Factor Analysis is being conducted to identify latent factors and after it Principal Component Analysis is used as extraction method and Varimax with Kaiser Normalization as rotation method to identify variables clubbed under each factors. Finally Ordinal Logistic Regression tool is used to identify which factors have significant control on the parental perceptions (dependent variable) and how much variation is being explained by independent latent factors.

### Data Analysis and Interpretation

The correlation matrix shows not a single variable out of 21 variables having no significant correlation with any of the other variables. Hence none of the variables has been excluded before conducting Exploratory Factor Analysis. The questions in the questionnaire were tested for internal consistency reliability. The table shows the reliability statistics. The internal consistency reliability condition was satisfied based on the Cronbach's Alpha value of 0.866(>.7).

**Table 1: Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.866	.869	21

Source: SPSS Output

Factor analysis can be best described as a tool to help in identifying the latent factors that might explain the dimensions associated with studies involving large number of variables. In this study, factor analysis is used to construct the new factors that controls parental attitude on on-line mode of education. Bartlett's test of Sphericity is based on chi-square transformation of the determinant of correlation matrix and a KMO test was performed to determine whether the data is suitable for factor analysis. Bartlett's Sphericity test and Kaiser-Meyer-Olkin sampling relevance measurement are two tests that can be used to determine the factorability of the matrix as a whole. It is an index to examine the appropriateness of factor analysis. High values between 0.5 and 1.0 indicate factor analysis is appropriate. Values below 0.5 imply that factor analysis may not be appropriate. Below is the table for KMO and Bartlett's test of Sphericity.

**Table 2: KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.842
Bartlett's Test of Sphericity	Approx. Chi-Square	1331.257
	df	210
	Sig.	.000

Sources: SPSS output

From the table, the Bartlett's Test of Sphericity is statistically significant with  $p < 0.05$ . This indicates that there are significant number of correlations among the variables (Approx. chi-square =1331.257, degree of freedom= 210, significance=.000). In the same vein, the Kaiser-Meyer-Olkin Measure of Sampling Adequacy is 0.842, which is greater than 0.8 and value greater than 0.8 indicates a strong sampling adequacy of all the items used. Both KMO measure and the Bartlett's Test of Sphericity indicates that factorability of the matrix as a whole is enough to run the factor analysis. It is observed that KMO being 0.842 indicates that there is no error in 84.2% of the items and in the residual 15.8%, there may be some sort of error.

**Table 3: Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.352	30.249	30.249	6.352	30.249	30.249
2	3.117	14.844	45.093	3.117	14.844	45.093
3	1.434	6.831	51.924	1.434	6.831	51.924
4	1.223	5.824	57.749	1.223	5.824	57.749
5	1.091	5.193	62.942	1.091	5.193	62.942
6	.920	4.381	67.323			
7	.785	3.740	71.063			
8	.721	3.431	74.494			
9	.657	3.130	77.624			
10	.580	2.762	80.386			
11	.568	2.705	83.092			
12	.519	2.471	85.562			
13	.469	2.232	87.795			
14	.450	2.144	89.938			
15	.392	1.868	91.807			
16	.356	1.697	93.504			
17	.352	1.676	95.179			
18	.311	1.479	96.659			
19	.289	1.377	98.036			
20	.239	1.138	99.174			
21	.173	.826	100.000			

Extraction Method: Principal Component Analysis.

Sources: SPSS output

From the following table it has been observed that five factors has been identified as significant factors responsible for explaining the variation in the variables associated with or controlling the parental perceptions regarding online teaching and total variation that has been explained by five factors is 62.942%.

**Table 4: Communalities**

	Initial	Extraction
Your child feels safe at home rather going to educational institution(1)	1.000	.273
Online class is well led and managed(2)	1.000	.667
Institution is well supportive in any concern raised by your child(3)	1.000	.540
Your children is feeling mental stress during online teaching(4)	1.000	.633
Due to online classes internet cost will increase(5)	1.000	.580
Present online teaching reduces the transportation cost(6)	1.000	.744
Isolation from physical class atmosphere leads to anxiety and depression in your child(7)	1.000	.659
Too much screen time is raising the incident of myopia (headache) in your child(8)	1.000	.703
Online classes will create problems in two-way communication(9)	1.000	.607
Friendly home atmosphere is available to your child for attending online classes(10)	1.000	.663
Your child has required Gadgets Accessibility for doing online classes(11)	1.000	.759
Your child has required internet accessibility for attending online classes(12)	1.000	.691
Study materials provided through online teaching is sufficient for your child(13)	1.000	.631
Online Teaching is a substitute for class room teaching(14)	1.000	.675
Regular evaluation of your child is taking place during online teaching(15)	1.000	.677
Online teaching is helping my child in becoming more knowledgeable regarding technicalities of online classes(16)	1.000	.716
Online examination procedure for your child is adequate(17)	1.000	.606
Knowledge regarding technical matters associated with online teaching will give your child added advantage in future career opportunities(18)	1.000	.698
Your child is getting comparatively free time due to online teaching as compare to physical classes(19)	1.000	.702
Your child is very much habituated with matters related to technicalities of online teaching(20)	1.000	.488
Online teaching ensures personal control and attention on students(21)	1.000	.508

Extraction Method: Principal Component Analysis.

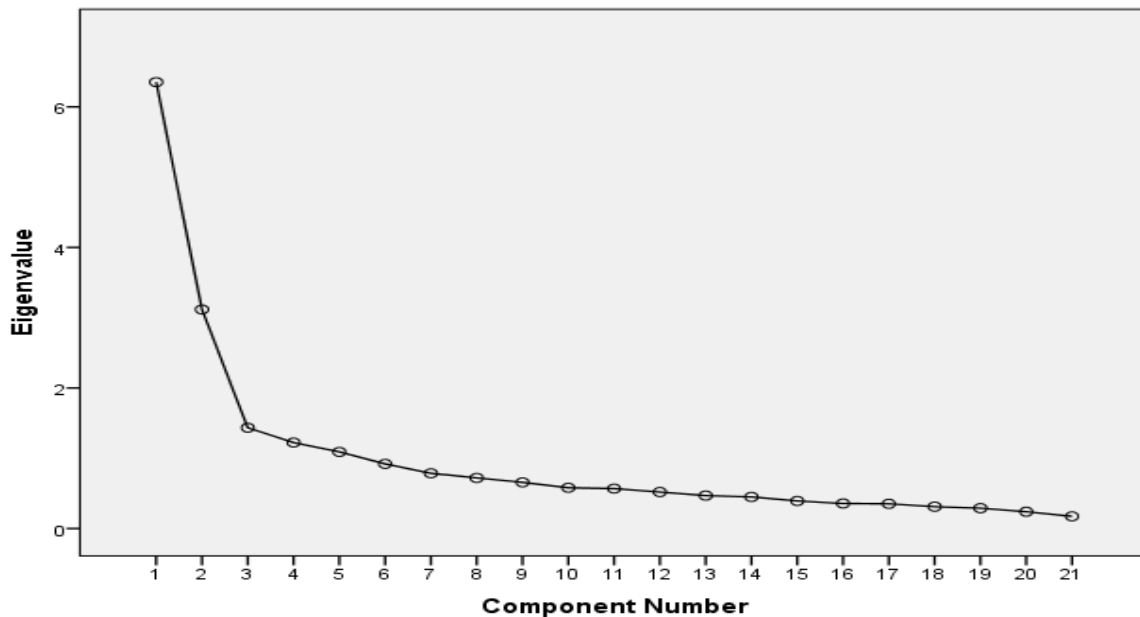
Sources: SPSS output

From the above table it has been observed that five factors that has been already identified explained the variation in individual variables combinedly by 27.3%, 66.75, 54%, 63.3, 58%, 74.4%, 65.9%, 70.3%, 60.7%, 66.3%, 75.9%, 69.1%, 63.1%, 67.5%, 67.7%, 71.6%, 60.6%, 69.8%, 70.2%, 48.8%,

50.8% for variables 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, respectively. Variable 1 is explained combinedly by five latent factors by less than 40%, hence it will not be clubbed under any of the underlying factors.

**Fig. 1**

**Scree Plot**



es: SPSS output

Sourc

To decide how many latent factors are there in, we need to represent the data, through the scree diagram. To identify the underlying factors we use Eigen values, Factors having Eigen values greater than 1 are considered as significant factors. From the table above, it shows the actual factors that were extracted. Taking a look at the section labeled "Extraction Sums of Squared Loadings," it shows only those factors that met the cut-off criterion (extraction method). In this case, there were five factors with Eigen values greater than 1. The "% of variance"

column tells how much of the total variability (in all of the variables together) can be accounted for by each of these summary scales or factors. Factor 1 accounts for 30.249% of the variability with Eigen value 6.352, Factor 2 accounts for 14.844% of the variability with Eigen value 3.117, Factor 3 accounts for 6.831% of the variability with Eigen value 1.434, Factor 4 accounts for 5.824% of the variability with Eigen value 1.223, Factor 5 accounts for 5.193% of the variability with Eigen value 1.091.

**Table 5: Rotated Component Matrix<sup>a</sup>**

	Component(Factors)				
	1	2	3	4	5
Your child feels safe at home rather going to educational institution (Variable 1)	.453				
Online class is well led and managed(Variable 2)	.537			.606	
Institution is well supportive in any concern raised by your child(Variable 3)	.406			.584	
Your children is feeling mental stress during online teaching(Variable 4)		.781			
Due to online classes internet cost will increase(Variable 5)		.720			
Present online teaching reduces the transportation cost(Variable 6)		.425		.676	
Isolation from physical class atmosphere leads to anxiety and depression in your child(Variable 7)		.736			
Too much screen time is raising the incident of myopia (headache) in your child(Variable 8)		.825			
Online classes will create problems in two-way communication (Variable 9)		.612		-.435	
Friendly home atmosphere is available to your child for attending online classes(Variable 10)	.683		.406		
Your child has required gadgets accessibility for doing online classes(Variable 11)			.821		
Your child has required internet accessibility for attending online classes(Variable 12)			.725		
Study materials provided through online teaching is sufficient for your child(Variable 13)	.633				
Online Teaching is a substitute for class room teaching(Variable 14)	.802				
Regular evaluation of your child is taking place during online teaching(Variable 15)	.780				
Online teaching is helping my child in becoming much more knowledgeable regarding technicalities of online classes(Variable 16)	.679				.440
Online examination procedure for your child is adequate(Variable 17)	.707				
Knowledge regarding technical matters associated with online teaching will give your child added advantage in future career opportunities(Variable 18)	.672				.454
Your child is getting comparatively free time due to online teaching as compare to physical classes(Variable 19)					.745
Your child is very much habituated with matters related to technicalities of online teaching(Variable 20)	.578				
Online teaching ensures personal control and attention on students(Variable 21)	.602				

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.<sup>a</sup>

a. Rotation converged in 34 iterations.

**Sources:** SPSS output

From the above table it has been observed that variables 10, 13, 14, 15, 16, 17, 18, 20 and 21 come under factor 1, variables 4, 5, 7, 8 and 9 come under factor 2, variable 11 and 12 come under factor 3, variables 2, 3 and 6 come under factor 4 and variable 19 comes under factor 5. Hence 21 variables are grouped under 5 underlying factors, thus this 5 factors explained a significant portion of the variance in the 21 variables. Now the researchers have named the factors as follows, I) Alternative Feasibilities and

Technicalities II) Health Hazard, Communication and Cost Factor III) Technical Accessibilities IV) Managerial and Cost Efficiency v) Leisure.

The researchers identified 5 latent factors from 21 variables, controlling the parental perceptions regarding online learning. Now to identify the percentage of variation in parental perceptions explained by these 5 factors, researchers conducted ordinal logistic regression.

### Regression 1

**Table 6: Parameter Estimates**

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[SATISFACTION = 1]	-3.794	.420	81.671	1	.000	-4.616	-2.971
	[SATISFACTION = 2]	-1.946	.257	57.474	1	.000	-2.449	-1.443
	[SATISFACTION = 3]	-.280	.196	2.040	1	.153	-.664	.104
	[SATISFACTION = 4]	2.237	.273	67.378	1	.000	1.703	2.771
Location	FAC1_1	1.534	.197	60.697	1	.000	1.148	1.919
	FAC2_1	-.061	.162	.143	1	.706	-.379	.257
	FAC3_1	.177	.156	1.295	1	.255	-.128	.482
	FAC4_1	.751	.167	20.297	1	.000	.424	1.077
	FAC5_1	.306	.156	3.872	1	.049	.001	.611

Link function: Logit.

Sources: SPSS output

From the above regression table it has been observed that factors 2 and 3 doesn't show any statistically significant impact on dependent variable

(parental perception) with  $P > .05$ . Hence a new ordinal regression has been conducted to identify variation explanatory capability of rest of the factors.

### Regression 2

**Table 7: Parameter Estimates**

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[SATISFACTION = 1]	-3.783	.420	81.300	1	.000	-4.605	-2.960
	[SATISFACTION = 2]	-1.943	.256	57.503	1	.000	-2.445	-1.441
	[SATISFACTION = 3]	-.293	.195	2.251	1	.133	-.675	.090
	[SATISFACTION = 4]	2.214	.270	67.245	1	.000	1.685	2.743
Location	FAC1_1	1.530	.196	60.659	1	.000	1.145	1.915
	FAC5_1	.301	.155	3.772	1	.052	-.003	.605
	FAC4_1	.734	.166	19.691	1	.000	.410	1.059

Link function: Logit.

Sources: SPSS output

From the above regression table it has been observed that factor 5 doesn't show any statistically significant impact on dependent variable (parental

perception) with  $P > .05$ . Hence a new ordinal regression has been conducted to identify variation explanatory capability of rest of the factors.

### Regression 3

**Table 8: Parameter Estimates**

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[SATISFACTION = 1]	-3.719	.409	82.708	1	.000	-4.521	-2.918
	[SATISFACTION = 2]	-1.927	.254	57.381	1	.000	-2.426	-1.429
	[SATISFACTION = 3]	-.314	.195	2.589	1	.108	-.696	.068
	[SATISFACTION = 4]	2.166	.265	66.622	1	.000	1.646	2.686
Location	FAC1_1	1.486	.194	58.962	1	.000	1.107	1.866
	FAC4_1	.731	.164	19.948	1	.000	.410	1.051

Link function: Logit.

Sources: SPSS output

From above table it has been observed that both the factors 1 and 4 significantly control the variation in parental perceptions regarding online learning.

### Pseudo R-Square

Cox and Snell	.420
Nagelkerke	.444
McFadden	.186

Link function: Logit.

Sources: SPSS output

It is observable from above table that 44.4% of the variation in dependent variable is being explained by the independent latent factors 1 and 4.

### Discussions and Recommendations

Based on the above study it has been clearly identified that two important factors have significant impact on parental perceptions regarding feasibility of online education system that is the main medium of

knowledge dissemination under the current pandemic situation. Alternative Feasibilities and Technicalities is one of the important factor that controls parental perception. The knowledge obtained by the researchers during data collection and result of the study as obtained; jointly signify that the quantity and quality of academic resources received by the students under online learning mechanism has a positive impact on parents in creating positive perception regarding merit of online education system. Another issue that is very much important under this factor is technical complexities associated with this system. Researchers observed, when a student is accustomed with this system or found interest in this mode, a positive perception developed among their parents. The second factor that controls parental perception is Managerial and Cost Efficiency. Researchers have observed during their course of study, that when a particular educational institution is well equipped and well managed regarding conduct of online classes, a positive perception developed among parents regarding feasibility of online education system. Finally, this second factor also includes cost efficiency associated with this system. The transportation cost that is totally excluded from the domain of online education system; has an important positive bearing on the parental perception.

Based on the above discussions it can be recommended that to make online education more feasible among general students all over the country during pandemic period, educational institutions need to be well equipped and well managed for efficient and smooth dissemination of knowledge. For this, they required adequate technical facilities, teachers and managerial training and empathetic towards students' concern. Adequate academic resources need to be provided by the institutions and resource mobilization towards student will be more fruitful if the institutions are efficiently managed. The students need to more accustomed with technical matters associated with online learning. This will develop their interest towards online learning in one hand and will make it more lucid for them to absorb the recent teaching-learning mechanism.

#### **Limitations and Future Research Scope**

The study has been conducted by considering comparatively small number of samples from some selected locations. More extensive

research can be undertaken in this aspect by considering more variables arising from different minute aspects and by collecting data from more wide area. Further this specific type of study can be conducted by considering parents of different specific section of students, belongs to any specific academic or socio-economic class or of any specific location. Further apart from factor analysis and regression, more critical sophisticated statistical tools applicable for cross-sectional data analysis like cluster analysis can also be used for getting better picture.

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