






# Impact of Work from Home During Covid-19 on the Socio-economic Status of India

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**Abstract.** Socioeconomic status (SES) is an instrument to measure the economic and social status of an individual or an economy concerning others. Though, Socioeconomic status is more commonly used to represent an economic difference in any society. Work from home is now a day (Covid-19) contributing to the nation for its socio-economic activities. This paper has examined the impact of ‘work from home’ on the socio-economic status of India as so many people became unemployed, the income of the society decreased as well as the Education system was worse affected. The present situation of the pestilence provided great importance to work from home (WFH) for many employees to have the opportunity to both carries on working and safely from the risk of virus vulnerability. As this Pandemic period is uncertain, working from home is more acceptable as the new normal working way. On the contrary, to find the impact of WFH on socio-economic status, we took three variables: education, employment, and income & wealth.

**Keywords:** Work from home · Socio-economic status · Education · Income & wealth · Employment

## 1 Introduction

The socioeconomic study refers to the interaction between the social and economic behavior of a group of people, linking financial and social issues together. SES is a prominent indicator of any nation’s economic as well as social position in the world. This index decides the togetherness of socio-economic activities. “Pandemics are not a new experience for the communities as they were recorded since prehistoric times. During each pandemic, major changes were noticed in the areas of economics, local and national policies, social behavior, and citizens’ mentalities as well. Opposing these changes, it was detected that mentalities and social behavior were slightest potted as the institutionalized modifications [1], through public policies, were not adequately attached and synthesized with the psychosocial changes [2].” During the Pestilence of Covid-19, it is realized that SES has been affected severely because of aberration of

social and economic activities. The COVID-19 pandemic is becoming furious and will have its long-term effects worldwide, most probably resulting in structural effects on the socio-economic status of India and other affected countries. “Like any other epidemics, COVID-19 has caused noteworthy changes on all levels of modern-day society [3–8].” The countrywide lockdown has ended up with financial losses as well as affected all segments of society including health, healthcare, and nutrition [15]. “Population density [9–11], high degree of mobility of humans, and mass socialization, as well as cultural, social, and tourism events [12–14] have been the basic reasons for COVID-19.” In this description, in a nutshell, the main aim is to confer the effect of Work from Home in rejoinder to the pestilence on education, income & wealth, and employment in India.

## 1.1 Education

From preschool to tertiary education, the education system has been affected, resultantly worldwide policies have been introduced to target the complete shutdown of educational institutions. Consequently, UNESCO estimated that this shutdown procedure of educational facilities has affected almost 900 million learners. At the same time as the objective of these shutdowns is to prevent the spread of the virus and obviate carriage to defenseless individuals in the institutions, these shutdowns have had ubiquitous socioeconomic implications.

In the absence of a proper support system office, work, and household work, as well as home time and school time, were inseparable during the lockdown and the playtime for children became zero [16]. “Every house became a school and each parent a teacher, during lockdown when schools and colleges were closed across India. There was no boundary between the playtime and my time for millions of children in the country. Further, it was realized the paucity of a structured learning environment at home with having a worse impact on overall learning and consequently affected the overall education outcome [16]”, education and SES are depicted in Fig. 1.

“As almost 70% of the 1.4 million schools and 51,000 colleges with nearly 300 million children are run by government bodies in India, the rural schools and the parents now face a bleak education system and emptiness even as government’s advisories ask schools to go online, and the government is looking at ways in which course can be designed so students do not suffer.” The impact of a long-term school shutdown is yet to be seen.

## 1.2 Employment

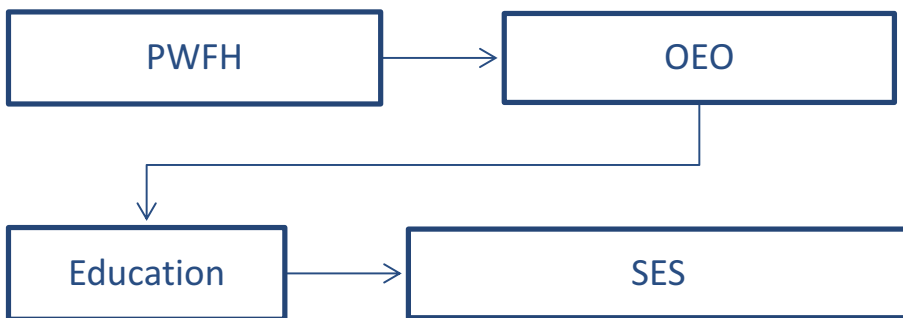
Many IT sector companies prefer WFH at a wide scale to enhance workplace flexibility [17] and to reduce the worst impact on Society. The sudden importance and growth of WFH have increased investigation of the WFH phenomenon, especially intending to identify the number of jobs that can be done casually [18–22]. In general, the literature overlooks the possible effects of WFH along with the unequal distribution of wages and income. The causes of inequalities are multiple and distinct and have been growing in eminence in policymakers, employment, and SES are depicted in Fig. 2.

According to Pouliakas and Branka (2020) and Fana et al. (2020), “the most defenseless groups, such as women, non-natives, those with non-standard contracts (self-employed and temporary workers), the lower educated, those employed in micro-sized workplaces, and low-wage workers has been impacted by the COVID-19 pandemic.” Consequently, Palomino et al. (2020) in their findings find that the crisis has increased the levels of inequality and poverty [23]. Beland et al. (2020) examined “the short-term consequences of COVID-19 on employment and wages as in his findings suggested that the unemployment rate has been increased due to COVID-19; Working Hours and labor force participation has decreased and had no significant impacts on wages [23].” Also, this crisis has increased labor market inequalities. “According to the World Economic Forum, the current pestilence compelled migrants to be trapped abroad and compromise to the unfavorable circumstances, by taking up low-wage jobs, living in poor working conditions, restricting spending, and thus, risk exposure to infections like the coronavirus [24].”

### 1.3 Income and Wealth

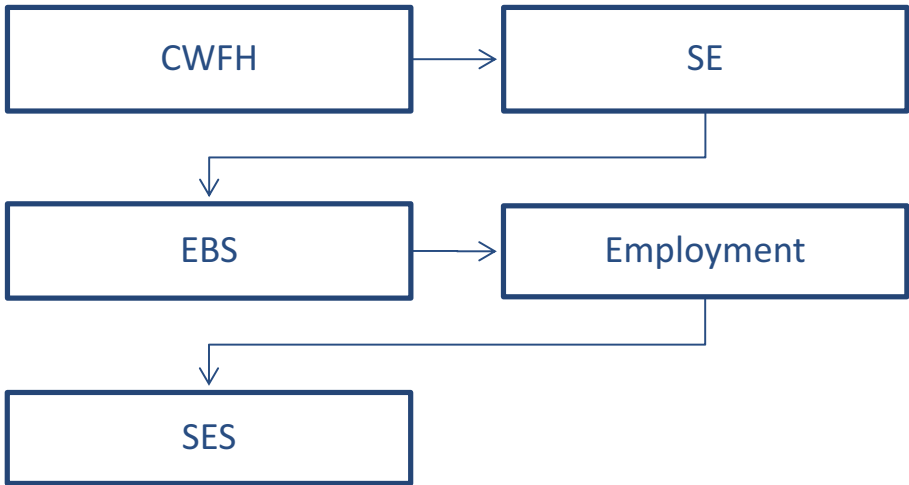
Under our best observation, this study first shows how an increase in WFH would have an impact on changes in income and wealth, as shown in Fig. 3. The lower socio-economic stratum (SES) has been greatly affected by the economic downturn during the current pandemic [15]. “The three main areas that have an economic impact of covid-19 are given below:

- Elevation in poverty i.e., approaching more people below the poverty line [25]
- Aggravation of socio-economic disparities [26, 27], and
- Conciliation in health-related precautions (use of masks, social distancing, looking for medical guidance in case of cough and fever, etc.).”



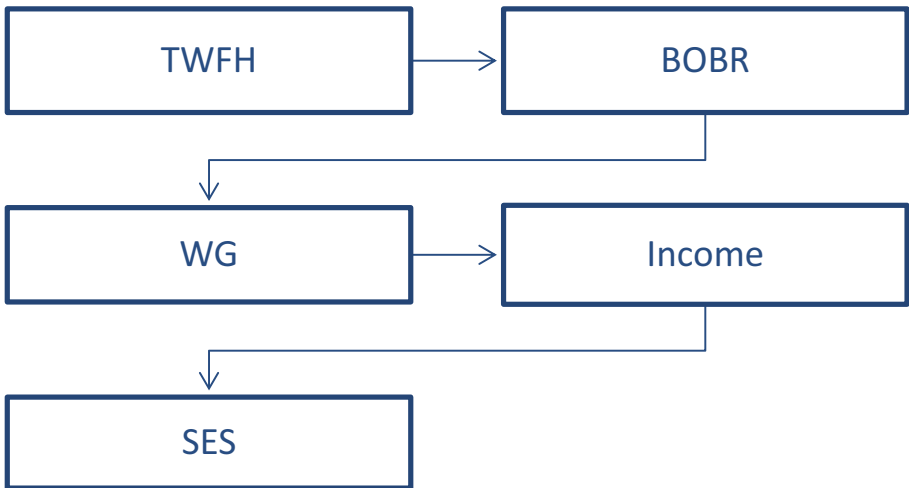
**Fig. 1.** Education and SES

In the current situation inequalities of income & wealth shocked younger households and middle-aged households respectively. One of the disruptions which are caused by this pandemic has had a major bang on the remittance flows used by migrant Indian



**Fig. 2.** Employment and SES

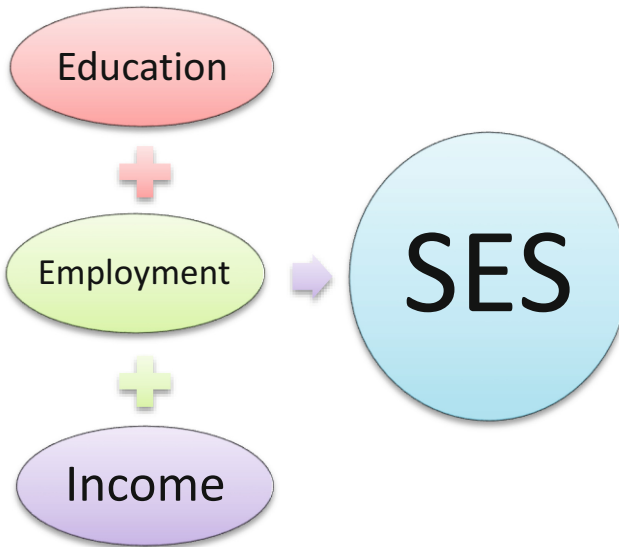
workers; works as one of the ways of poverty diminution, economic development, and boosting GDP. In India, remittances are anticipated to go down by about 23% in 2020; with a remarkable gap to a growth of 5.5% in 2019 [28]. WFH system has emerged with Covid-19, under which the people were suggested to work, study, and worship from home.



**Fig. 3.** Income and SES

Educationalists were also invited to adopt work from home system using technology, as per the orders of The Ministry of Education. WFH for teachers has a few advantages and disadvantages as well, for the performance of teachers. Also Work from home can

be carried out successfully if both the Educationalists and the educational institution go through it dutifully [29]. Talking about certain disadvantages of WFH is that teachers may not have any motivation to work due to a few constraints, like salary cuts, firing, etc., which reduce their income, consequently an aberration of enthusiasm and motivation. Although WFH is considered the most effective way of performing activities, it helps to minimize pestilence crisis and helps to run economic activities to earn Income.



**Fig. 4.** SES model

In India comorbidity of this Pandemic has a great impact on Socioeconomic status (SES), especially during lockdown and post-lockdown. The above model shown in Fig. 4 of SES represents the relationship between three variables education, employment, and Income & wealth that are analyzed based on the independent variables, given below:

- i. preference for work from home (PWFH),
- ii. comfortable with work from home (CWFH),
- iii. Time to work from home (TWFH)

and dependent variables are also given below:

- i. online classes effective than offline (OEO),
- ii. Self-employed (SE),
- iii. economically beneficial for society (EBS)
- iv. boost in online business revenue (BOBR) and
- v. larger wealth gap (WG).

One of the most notable to this model is the socio-economic status of India is framed by OEO, SE, EBS, BOBR, and the WG. During covid-19, the online classes were more

effective than Offline classes as children realized as per their safety basis with this the online business revenue has increased as various activities have only one way to be performed i.e., Online. People enjoyed lockdown with the help of online games and other entertainment options, hence we can say lockdown enhanced the use of online platforms. Due to this pandemic, people realized to have technical knowledge that again encouraged cognitive behavior. Revenue from online businesses encouraged online employment in the form of self-employment which could decrease unemployment. WFH also has optimistic brim over effects on workers as it is beneficial to them for increased income and reduced infection risks [18].

“As in the US economy [23], Beland et al. (2020) examined that covid-19 leads to an increase in the unemployment rate, working hours, as well as the participation of the labor force, has decreased; India faced the same issues due to which income and employment level went down.” This happening allows other problems, like a larger wealth gap with increased income inequalities and poverty to have emerged. Further, this increased the scope for self-employment during the post-lockdown period under a good preview of the SES (Socio-economic status) of India. For the growth of any economy like India, SE & BOBR play a vital role to design a dignified SES. With this reference model of SES, we examined the performance of the OEO, SE, BOBR & wealth gap in the landscape of education, employment, and income & wealth to encourage the growth of SES in India. Pandemic is responsible for shutting down certain employment opportunities, decreased income sources, and more impact on education, but on the contrary, we found certain development in these fields. Likewise, innovations are positively related to worse conditions, as it is said in a worse situation when we have no more options, the human mind conquers new ideas, and it leads to innovations. With these arguments, we analyzed that SES is the outcome of alterations we have in OEO, SE, EBS, BOBR, and WG as these were enhanced during this crisis.

## 2 Theoretical Background and Hypothesis Development

In this paper, we took 257 respondents from schools, Universities, professionals, industry persons, and academicians from corner to corner via social media platform (WhatsApp) in India to understand the effect of WFH on education, employment, and Income in India. The data is limited to a few states like Uttar Pradesh, New Delhi, Uttarakhand, Maharashtra, Gujarat, Punjab, Assam, Bihar, and West Bengal. Drawn from our arguments and past research we developed three hypotheses. Under the surveillance of covid-19; the study was conducted based on primary data collection ( $n = 257$ ) in online mode. We selected University students, teachers, and other participants on a convenience sampling basis to ensure feasibility. Quite a lot of advantages and disadvantages to the WFH program have been observed by different researchers, as WFH activity is more flexible than the physical activities to complete the work [29]. In education as well as in other professions like IT sectors the stress level has been decreased with a distancing from traffic jams and also have more free time for family. This gives a boost for the employees to strengthen their ability.

Various research has confirmed that WFH is beneficial for the health of the country socially and economically [30], hence we thought to go for an analysis of the Impact of

WFH on the SES of any nation, like India. For this, we tried to get information related to the three elements of SES (education, health, and income) that define the health of any nation.

We had a set of questions through an online survey anonymously, using the non-probability snowball sampling technique that has been framed first on demographics like age and gender; then the questions were divided into three parts

- i. Education
- ii. Employment
- iii. Income & wealth.

For the first part of the questionnaire, we asked teachers & professors, do they feel comfortable with online classes? and do these online classes are more effective than offline? Further, the questionnaire consists of two questions that have been asked to private employees (teachers & professors, low and middle-class workers, and Industry persons) do they think work from home is economically beneficial for society? and Do self-employment is the outcome of 'work from home' during this pandemic? Finally, we asked three questions to them including estate dealers and purchasers; do they think it is appropriate or suitable for the health of any nation? Do online movements facilitate a boost in revenue from online businesses? do Wealth gaps (like income equality) become larger during this Pandemic?

**H1:** Effect of WFH on Education regarding the independent variable PWFH and dependent variable OEO.

**H2:** Impact of WFH on Employment regarding the Independent variable CWFH and dependent variables SE and EBS.

**H3:** Impact of WFH on Income & wealth regarding the independent variable TWFH and dependent variables BOBR and WG.

**H4:** SES depends on PWFH, CWFH, and TWFH with the special reference to education, employment, and income & wealth.

The collected information was then analyzed by Simple Linear Regression analysis in SPSS. We examined close relationships between different variables taken in the study. Based on Descriptive Statistics, we found the Range = 1, mean ( $n = 257$ ) = 1.44, S.D. = 0.499 of all respondents.

*A. Study 1:* We took 100 students and teachers out of 257 respondents and found that online study is more effective than offline as it reduces infection risks and enhanced the technical knowledge of both. Further, the results i.e.,  $P < 0.002$ ,  $R^2 = 0.131$ , and  $F = 10.266$  stated that the overall regression model was significant. This has suggested that students and teachers prefer online classes, consequently preferring WFH and so contributing to the growth of SES, as shown in Tables 1, 2, and 3.

**Table 1.** Model summary

Model	R	R square	Adjusted R square	Std. error of the estimate
1	.360 <sup>a</sup>	.131	.118	.939

<sup>a</sup>Predictors: (Constant), PWFH.

R<sup>2</sup> = 0.131; taken as a set, the predictors i.e., dependent variables account for 13.1% of the variance in the independent variable.

**Table 2.** ANOVA<sup>a</sup>(test using alpha = 0.05)

Model		Sum of squares	Df	Mean square	F	Sig.
1	Regression	9.052	1	9.052	10.266	.002 <sup>b</sup>
	Residual	60.836	69	.882		
	Total	69.887	70			

<sup>a</sup>Dependent Variable: OEO.

<sup>b</sup>Predictors: (Constant), PWFH.

**The overall regression model was significant, F = (9.052, 60.836) = 10.266,**

**Table 3.** Co-efficients<sup>a</sup> (test each predictor at alpha = 0.05)

Model		Unstandardized coefficients		Standardized coefficients	t	Sig.
		B	Std. error	Beta		
1	(Constant)	2.861	.274		10.457	.000
	PWFH	.376	.118	.360	3.204	.002

<sup>a</sup>Dependent Variable: OEO.

*B. Study 2:* This study deals with the second hypothesis, where we found that EBS is insignificant at  $P < 0.221$ ,  $R^2 = 0.023$ , but SE is significant with  $P < 0.001$ ,  $R^2 = 0.157$ . Examining this we can state that self-employment has been encouraged during Covid-19, on the contrary, WFH is not economically beneficial for society because of a dearth of motivation, and competition and has hampered Industrial work (fieldwork), as shown in Tables 4, 5, and 6.

During this pestilence, self-employment has been encouraged due to less employment in the economy and cutting of salaries, which discouraged employees to remain in the job. Although the business also had many constraints during this period, still people were ready to engage themselves in business activities.

*C. Study 3:* An extrapolation of the below preliminary findings suggests that the first variable in TWFH is 'boost in online business revenue' has no significant effect on SES. From the results, we found  $P < 0.725$ ,  $R^2 = 0.002$  which shows only 0.2% of the variance



**Table 4.** Model summary

Model	R	R square	Adjusted R square	Std. error of the estimate
1	.147 <sup>a</sup>	.023	.008	1.071

<sup>a</sup>Predictors: (Constant), CWFH.

$R^2 = .023$ ; taken as a set, the predictors i.e., dependent variables account for 2.3% of the variance in the independent variable.

**Table 5.** ANOVA<sup>a</sup> (test using alpha = 0.05)

Model		Sum of squares	Df	Mean square	F	Sig.
1	Regression	1.755	1	1.755	1.528	.221 <sup>b</sup>
	Residual	79.203	69	1.148		
	Total	80.958	70			

<sup>a</sup>Dependent Variable: EBS.

<sup>b</sup>Predictors: (Constant), CWFH.

**The overall regression model was significant,  $F = (1.755, 79.203) = 1.528$ .**

**Table 6.** Coefficients<sup>a</sup> (test each predictor at alpha = 0.05)

Model		Unstandardized coefficients		Standardized coefficients	t	Sig.
		B	Std. error	Beta		
1	(Constant)	2.090	.277		7.548	.000
	CWFH	.132	.107	.147	1.236	.221

<sup>a</sup>Dependent Variable: EBS.

in the independent variable. Although during lockdown people at home preferred to play online and also it has been observed predilection for online entertainment, as shown in Tables 7, 8, And 9.

**Table 7.** Model summary

Model	R	R square	Adjusted R square	Std. error of the estimate
1	.396 <sup>a</sup>	.157	.145	1.071

<sup>a</sup>Predictors: (Constant), CWFH.

$R^2 = 0.157$ ; taken as a set, the predictors i.e., dependent variables account for 15.7% of the variance in the independent variable

**Table 8.** ANOVA<sup>a</sup> (test using alpha = 0.05)

Model		Sum of squares	Df	Mean square	F	Sig.
1	Regression	14.740	1	14.740	12.842	.001 <sup>b</sup>
	Residual	79.203	69	1.148		
	Total	93.944	70			

<sup>a</sup>Dependent Variable: SE.<sup>b</sup>Predictors: (Constant), CWFH.**Table 9.** Coefficients (test each predictor at alpha = 0.05)

Model		Unstandardized coefficients		Standardized coefficients	t	Sig.
		B	Std. error	Beta		
1	(Constant)	1.090	.277		3.937	.000
	CWFH	.382	.107	.396	3.584	.001

<sup>a</sup>Dependent Variable: SE.**The overall regression model was significant,  $F = (14.740, 79.203) = 12.842$ .**

*D. Study 4:* In this study, we examined the relationship between TWFH and WG to know whether these variables are interconnected or not. Although we know that there is a very close relationship but during the pandemic, income decreased at a remarkable rate and for this reason, our analysis showed insignificant results and a low percentage of variance. People need more time for WFH and the income to be increased; it is predicted that WFH is preferred by It companies and others forever, in that case, Income will increase and SES as well.  $R^2 = 0.005$ ; taken as a set, the predictors i.e., dependent variables account for 0.5% of the variance in the independent variable, shown in Tables 10, 11, 12, 13, 14, and 15.

**Table 10.** Model summary

Model	R	R square	Adjusted R square	Std. error of the estimate
1	.043 <sup>a</sup>	.002	-.013	.855

<sup>a</sup>Predictors: (Constant), TWFH. $R^2 = 0.002$ ; taken as a set, the predictors i.e., dependent variables account for 0.2% of the variance in the independent variable

The above analysis revealed that WG and BOBR have insignificant relations, but both have a positive relationship with SES. Shreds of evidence from Tables 4 and 5 explain the reason why WFH was one of the instruments in reducing infection rates during the early days of the pestilence.

**Table 11.** ANOVA<sup>a</sup> (test using alpha = 0.05)

Model		Sum of squares	Df	Mean square	F	Sig.
1	Regression	.091	1	.091	.125	.725 <sup>b</sup>
	Residual	50.387	69	.730		
	Total	50.479	70			

<sup>a</sup>Dependent Variable: BOBR.

<sup>b</sup>Predictors: (Constant), TWFH.

**The overall regression model was significant,  $F = (0.091, 50.387) = 12.842$ .**

**Table 12.** Coefficients<sup>a</sup> (test each predictor at alpha = 0.05)

Model		Unstandardized coefficients		Standardized coefficients	t	Sig.
		B	Std. error	Beta		
1	(Constant)	1.541	.281		5.478	.000
	TWFH	.034	.097	.043	.354	.725

<sup>a</sup>Dependent Variable: BOBR.

**Table 13.** Model summary

Model	R	R square	Adjusted R square	Std. error of the estimate
1	.071 <sup>a</sup>	.007	-.010	1.236

<sup>a</sup>Predictors: (Constant), TWFH.

**Table 14.** ANOVA<sup>a</sup> (test using alpha = 0.05)

Model		Sum of squares	Df	Mean square	F	Sig
1	Regression	.515	1	.515	.337	.563 <sup>b</sup>
	Residual	105.401	69	1.528		
	Total	105.915	70			

<sup>a</sup>Dependent Variable: WG.

<sup>b</sup>Predictors: (Constant), TWFH.

**The overall regression model was significant,  $F = (0.515, 105.401) = 0.337$ .**

### 3 Conclusion

During the period of pestilence, we all are moving with a threat of being caught in this trap of pandemic and don't have any clues on how to get rid of the situation; we are worried for our family and obviously for us too, knowing the adverse impact of

**Table 15.** Coefficients<sup>a</sup> (test each predictor at alpha = 0.05)

Model		Unstandardized coefficients		Standardized coefficients	t	Sig.
		B	Std. error	Beta		
1	(Constant)	2.047	.407		5.032	.000
	TWFH	.081	.140	.070	.581	.563

<sup>a</sup>Dependent Variable: WG.

covid-19. For the time being, we have vaccination now, but every higher authority has question marks in their minds about whether they can solve this issue at that level of desire of the public. Many efforts have been done to fight with covid-19, but not got the final solution. In between that, every nation tried to overcome this issue at its best levels. India also revealed the best part of its socio-economic aspects by balancing the situation by applying WFH which is the utmost during the pandemic. This paper argued that work from home is very much effective as it saves lives and the economy as well. All else equal, the education, employment and income level of the economy have a worse impact because of this pandemic and WFH allows reducing infection risk while maintaining both economic and social activities. In this paper we took these (education, employment, and income) three parts of SES as indicators and compared them with a preference for work from home (PWFH), comfortable with work from home (CWFH), & Time to work from home (TWFH) as independent variables; and dependent variables i) online classes effective than offline (OEO), ii) Self-employed (SE), iii) economically beneficial for society (EBS) iv) boost in online business revenue (BOBR) and v) larger wealth gap(WG); to examine the relationships. The results were shocking for different dependent variables, we found the significant relations of all to SES except one variable i.e., WG which gave insignificant results during the first phase of covid-19. We examined that WFH benefited the socio-economic part of the nation with few negative impacts that imply WFH should be encouraged as long as noteworthy virus risk remains.

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