

## **Proliferation of Social Media during the COVID-19 Pandemic : A Statistical Enquiry**

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**Abstract-** The usage of social media has phenomenally increased during the COVID-19 Pandemic. People have increased the use of social media for a variety of reasons ranging from socializing, entertainment, communication, online teaching, to web meetings, work from home, health improvement and so on. This study aims to enlighten about the ways in which social media has been used by people in India especially the students and professionals and how it has impacted them.

A total of 353 respondents from different parts of the country were approached through purposive sampling survey and analyzed using the SPSS 21.0. A 25-item tool for collecting responses on the different aspects of social media usage during the pandemic times was administered to observe the role of social media usage, including demographic factors, patterns of use, purpose of usage and its influence recorded. This study of respondents indicated that there is a surge in the usage of social media after the COVID-19 pandemic crisis! There were almost 42.5% of respondents who trusted social media for critical news over National News Channels and Government agency websites, whereas (37.7%) of respondents did not rely on the same. Pearson Chi-square statistics showed association between age and the average usage of Instagram per day (95% CI and P value=0.000\*). Challenges faced by the respondents were many due to the sudden, varied and forced usage of social media. The significant result that has been observed is that there is a positive implication for use of social media during the pandemic and that social media has actually helped the people in multiple ways positively. The findings provide insights into the opportunities and threats to the usage of social media and introduces new directions for further research. This research throws open the ways to conduct new research for effective use of social media.

**Keywords:** Social Media, Pandemic, COVID-19, work from home, social distancing, online lectures, connectivity, socializing, Google classrooms, Webinars,

### **I. INTRODUCTION**

Social media usage has increased globally, in volumes and purpose during the time of COVID-19 pandemic like never before. Internet usage has been on the rise in India during the last decade. Arens(2020). The combination of the advent of the internet, smart phones along with the young generation has given a big boost to the growing population of internet users. Innovative mobile applications have made things accessible, efficient and easy to use. The use of internet and smart phones by different populations is a cause for concern as sparse use turns into an addiction at times. Social media usage is already on the rise for varied reasons. Whatsapp, Instagram, facebook and the like have become a prominent part of the individuals daily routine today and extreme dependability is observed on these social media. Zhong((2015)

The use of social media is quite complex when scrutinized on close quarters. It has its own pros and cons. Wiederhold et al(2020). Social media data analytics prove to be very useful to understand the volume, content, and distribution of social media for telemedicine purpose. Massaad et al(2020) Social media has been used by many users for conducting their day to day activities and professional responsibilities. Studies have tried to understand the impact of social media while adopting it in different ways like the flexi working hours and work from home policies.

Buttigieg (2015), Vega-Castaneda (2019), Zhong(2015) Many businesses and travel portals are known to have used the social media for attracting customers and improving profitability. Mukerjea (2017)

Researchers have also identified the impact of Internet over use and possible internet addiction was observed to indicate the problems like insomnia, eye-strain, day time sleepiness and lack of concentration among the young and children and also affect their social relationships, Balhara(2018), Bhatt et al(2019), Lackovic(2020) , Paul, Bobby, et al. (2015). And Saltzman (2018) Internet addiction has also been linked to social isolations. Sucharitha (2020), In the field of medicine, the patient doctor relationship is the one which is based on trust and confidentiality. It is of utmost importance for a doctor to keep his is patient's confidentiality. There are many instances where there is breach of trust, giving rise to ethical concerns. Chaudhuri et al(2018), Gulia(2017) and Hartley(2014)

Social media usage for teaching and learning in classrooms is gaining popularity more so during the pandemic and lockdown in the country and has its own implications for the faculty using it due to the enhanced capability of communication, content delivery, collaborations and interaction. Roebuck et al (2013), Skinner (2019), Milakovich & Wise(2019).

## II. SOCIAL MEDIA DURING COVID 19 LOCKDOWN:

As the COVID 19 pandemic reached India, the entire country was ordered to be under lockdown and the ever moving lives of the people came to a grinding halt. The seriousness was not felt at first and people thought that it would be normal soon. But very soon, the only contact with the outside world remained to be through the internet, television, and of course the social media! There was a remarkable rise in the usage of social media from January 2020 to April 2020.

As per the worldstats data, Instagram users in India rose from 80.5 millions in January 2020 to to 88 millions in April 2020. India has the second largest number of Instagram users after the USA. Schools and colleges from across the world have taken to Zoom, Google classrooms and Webex for delivering the lessons. The Zoom meeting app saw the rise in meeting participants from 10 million in December 2019 to 300 million plus in at the end of March 2020. 43% of new users on TikTok are from India. The highest users of Facebook are Indians at 270 million Facebook users. Cisco Webex users have almost doubled since January 2020. Deeper review of statistics convey that social media usage has increased manifold in numbers and uses during the present COVID 19 pandemic.(data from Statista, Statscounter,Worldstats, and Economic Times)

## III. MATERIALS AND METHODS:

**3.1 Research Design:** This cross-sectional study was carried out on professionals and students from different areas across India, above the age group of 14 consisting of variant demographic background. The respondents in this study were undergraduates, graduates , post graduates and M.phil/Ph.D degree holders too. Since it was a period of lockdown, the Google form questionnaire was circulated online through email and Whatsapp and data was collected and recorded. The responses are self reported and voluntary in nature. Among 360 respondents 7 submitted responses were discarded/ deleted as it was repeated by the same person twice. Thus, total of 353 were finally included in the study. Of the studied sample 42.8% were Females and 57.2% Males  
Sample strategy- Convenience sampling was adopted to get prompt and economical responses.

### 3.2 Data Collection :

All questionnaires were anonymous and self-administered and distributed through Google forms.

The questionnaire consisted of three parts:

- A. Socio-demographic information
- B. Usage of social media patterns after the COVID-19 pandemic has come to light.
- C. Factors for Usage of Social media during the COVID-19 pandemic crisis.

The 25 - item questionnaire measured on five-point Likert scale. The reliability of the instrument came to 0.81 which is very positive. The results and discussions with respect to usage of social media and its impact has been discussed below.

### 3.3. STATISTICAL ANALYSIS:

The SPSS version 21.0 (IBM SPSS Statistics) was used for the statistical analysis of the data collected. The demographic variables and patterns for use are presented through the frequency tables. The different relationships and associations are studied by using the descriptive statistics. Pearson Chi-square statistics was performed with Age group and Average time in a day spent using social media apps. In all calculations, P values under 0.05 were considered significant.

### IV: RESULTS:

Socio-demographic profile of the study participants along with the usage patterns of social media apps and the purpose of usage are depicted in the tables 1,2 and 3.

**Table 1: Socio-demographic characteristics of study participants (n=353)**

Socio-demographic variables*	n	%
Age (years)		
15-24	270	76.5
25-44	68	19.3
45-64	15	4.2
Gender		
Male	202	57.2
Female	151	42.8
Residing Locality		
Urban	211	59.8
Semi-Urban	95	26.9
Rural	47	13.3
Qualification		
SSLC	2	0.6
HSC	7	2.0
Graduation	150	42.5
Post-Graduation	187	53.0
M.Phil/Ph.D	6	1.7
Other	1	0.3
Occupation		
Student	257	72.8
Business	11	3.1
Working Professional	79	22.4
Other	6	1.7

\*Source= Primary data from questionnaire

**Table-2 : Pattern of usage of Social Media per day**

Variables	Age (in years)			Average usage time in a day (minutes)
	15-24 (n=270) n (%)	25-44 (n=68) n (%)	45-64 (n=15) n (%)	
Facebook	244 (90.37)	62 (91.17)	13 (86.66)	15-30 minutes
Whatsapp	270 (100)	68 (100)	15 (100)	30-60 minutes
Instagram	260 (96.29)	62 (91.17)	10 (66.66)	15-30 minutes
Twitter	206 (76.29)	44 (64.70)	11 (73.33)	15-30 minutes
Tiktok	172 (63.70)	42 (61.76)	10 (66.66)	15-30 minutes
LinkedIn	240 (88.88)	49 (72.05)	10 (66.66)	15-30 minutes
Zoom	211 (78.14)	51 (75)	12 (80)	Less than 15 minutes
Skype	177 (65.55)	42 (61.76)	11 (73.33)	15-30 minutes
Webex	174 (64.44)	39 (57.35)	10 (66.66)	15- 30 minutes
Hangout	180 (66.66)	41 (60.29)	10 (66.66)	15-30 minutes
YouTube	268 (99.25)	65 (95.58)	14 (93.33)	30-60 minutes
Other	204 (75.55)	51 (75)	13 (86.66)	15-30 minutes

\*Source= Primary data from questionnaire

**Table-3 : Purpose of using social media during the infectious disease crisis.**

Variable	n	%
Studying		
15-24	217	80.37
25-44	37	54.41
45-64	2	13.33
Entertainment		
15-24	240	88.88
25-44	53	77.94
45-64	9	60.00
Socializing		
15-24	166	61.48
25-44	41	60.29
45-64	6	40.00
Work from home		
15-24	29	10.74
25-44	28	41.17
45-64	3	20.00
Connecting with long distance relatives and friends		
15-24	129	47.77
25-44	41	60.29
45-64	9	60
Online trading		
15-24	30	11.11
25-44	8	11.76
45-64	0	0.00
News Updates		
15-24	204	75.55
25-44	39	57.35
45-64	11	73.33
Ordering groceries and vegetables		

15-24	50	18.51
25-44	13	19.11
45-64	0	0.00
Training others		
15-24	30	11.11
25-44	7	10.29
45-64	4	26.66
Other		
15-24	5	1.85
25-44	3	4.41
45-64	0	0.00

\*Source= Purpose of social media usage section in questionnaire

**Table – 4 : Social Media during COVID-19 pandemic crisis (n=353)**

According to you during the COVID-19, Social Media,	Strongly Disagree n (%)	Disagree n (%)	Uncertain n (%)	Agree n (%)	Strongly Agree n (%)
Is an excellent platform for networking	31 (8.8)	16 (4.5)	40 (11.3)	155 (43.9)	111 (31.4)
Allows the users to share their thoughts and opinions on different	21 (5.9)	14 (4)	43(12.2)	181 (51.3)	94 (26.6)
Used as an effective tool for educating people about the pandemic	28 (7.9)	24(6.8)	58 (16.4)	151(42.8)	92 (26.1)
Is a major influencer on public response to the outbreak	24(6.8)	23(6.5)	64(18.1)	166(47)	76(21.5)
Lets quick and rapid spread of awareness during pandemic crisis by maintaining social distance	27(7.6)	16(4.5)	51(14.4)	147(41.6)	112(31.7)
Plays an important role in spreading positivity during the pandemic crisis	29(8.2)	30(8.5)	87(24.6)	134(38)	73(20.7)
Is an influencer for social help during the pandemic crisis	27(7.6)	17(4.8)	60(17)	181(51.3)	68(19.3)
Is a powerful tool to stay connected and for global unity	24(6.8)	9(2.5)	52(14.7)	151(42.8)	117(33.1)
Provides information at our fingertips	28(7.9)	14(4)	42(11.9)	153(43.3)	116(32.9)
Spreads the misinformation/ fake news	26(7.4)	22(6.2)	66(18.7)	115(32.6)	124(35.1)
Leads to lesser time on socializing in person	31(8.8)	33(9.3)	102(28.9)	139(39.4)	48(13.6)
Leads to rapid spread of offensive content targeting communal posts, which disturbs society	28(7.9)	29(8.2)	72(20.4)	139(39.4)	85(24.1)
Leads to rapid spread of rumours	24(6.8)	23(6.5)	65(18.4)	119(33.7)	122(34.6)

\*Source = social media usage factors – primary data

**Table-5 : Pearson Chi-square statistics between Age and the Social media Usage time per day**

Variable	Pearson Chi-square value	p-value
Instagram	70.947	0.000
Linked-In	26.338	0.003
Hangouts	9.795	0.459
Youtube	22.881	0.11

\*Source: Statistical analysis of original data

**Table 6 : Table consisting of factors observed during this pandemic crisis n=353**

Variables	n (%)
Do you think usage of social media has increased during the pandemic crisis?	
Yes	314 (89 )
No	20 (5.7)
Maybe	19 (5.4)
Do you trust social media platform for critical news over National news channels and Government agency websites?	
Yes	64 (18.1)
No	139 (39.4)
Sometimes	150 (42.5)
Do you rely on official announcements forwarded or shared on social media by your family or friends?	
Yes	75 (21.2)
No	133 (37.7)
Sometimes	145 (41.1)
If yes, do you verify it with official websites/channels before sharing it among your family/friends?	
Yes	218 (61.8)
No	84 (23.8)
Sometimes	51 (14.4)
Have you downloaded AarogyaSethu app of Government of India?	
Yes	216 (61.2)
No	137 (38.8)

Source: Primary data from questionnaire

## V. DISCUSSIONS:

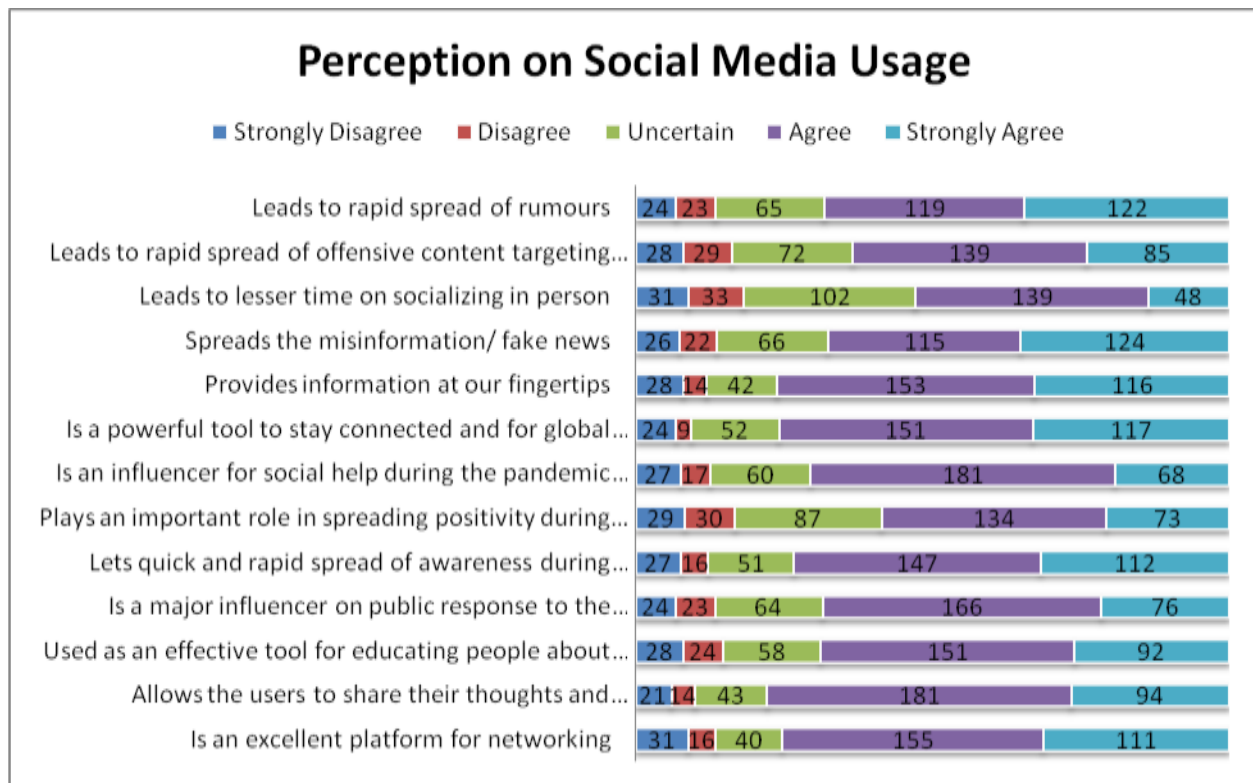
From literature it is evident that researchers have termed the excessive and problematic use of internet as a cause of concern. Balhara et al(2018), Bhatt et al(2019), & Lee et al (2012). Though the concern still remains but this study has brought to light the fact that internet is a blessing in disguise of the availability of social media for a variety of reasons especially during the COVID 19 nationwide lockdown.

Table 1, depicts the Socio-demographic profile of the respondents. 76 percent of the respondents are upto 24 years of age, representing the young population that is very conversant with the smart phones and apps. Since the majority of sample elements are students (72%) and working professionals(22%), who are actual users of social media in the population also, the results of this study are indicative and can be used for benefit of the society by coming up with innovative and useful apps.

Table 2 represents the average time users are using the different social media apps and it is found that WhatsApp and Youtube is been used by the higher number of respondents with an average usage of almost 30-60 minutes per day. The reasons for the increased use of social media and results indicate that the purpose of online learning, entertainment, socializing and new updates (Table 3).

It is worth noting that the respondents are wary of the fact that the social media does fuel a lot of rumours spreading and that users ought to be careful to believe everything that is spread through social media (Table 6). Creating awareness, spreading positivity, networking, educating, extending help, and sharing opinions are the significant reasons for which people value social media in this time of pandemic. (Table 4). The respondents have concurred to the social media being very useful for them for varied purposes like conducting professional duties and documentation online, using the different apps for health and well being, online training programmes and webinars

helping the trainers to widen the reach to learners, socializing through apps for conference calls and bonding over the boundaries with the family and friends. Pearson's Chi-square test was applied to understand the association of age and use of social media. (Table 5). Significant correlation was found between age and use of Instagram, LinkedIn and Youtube indicating that age does influence the usage of social media.



**Figure 1: Factors attributing to usage of social media**

A look at the factors that fuel the use of social media and the pros and cons of using social media indicate that respondents attribute the social media to be very useful due to various factors. (Figure 1) and they are also wary of the misuse of social media especially during trying times like the present pandemic.

The massive reach of social media been used by the government to reach out to the public for conveying the official messages, create awareness, convey help lines and even warnings. An app called the ArogyaSetu app has been specially developed to help the people to understand, check and report if they suspect of being affected with the COVID 19!

## VI. CONCLUSION

This study has focused on the role of Social media during the COVID – 19 pandemic. Some earlier studies referred to social media as a threat to the productivity of youth and students in the form of technology addiction, the results here actually prove to be of significance and stress upon the innovative use of social media. Hence it can be concluded that the COVID 19 pandemic. has given way to innovative use of internet and social media to keep the people safe, healthy, engaged and in positive frame of mind during the lockdown imposed due to COVID 19 pandemic.

Further researches can be focused upon how to creatively and constructively use this power of social media in many other fields especially in social welfare, healthcare and economic development.

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