

# Social Media and Public Health Awareness among Youth about COVID-19

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## Abstract

The current study has been designed to study the relationship between social media usage and health awareness practices as well as panic among the Indian youth during COVID-19. A survey was conducted among the University students in Delhi-NCR region to assess the effect of social media on their health behaviour in the wake of the pandemic. An online survey of 250 students was executed employing a 5-point Likert scale based self-administered questionnaire consisting of 23 questions. The data was analysed using smart PLS-SEM (Partial Least Squares Structural Equation Modelling). The results indicate that behavioural change in a person is key to his protection against the lethal virus. While the social media induced panic does not trigger a positive behaviour change, neither does it lead to protective practices. Moreover, it also shows that the higher the level of awareness about COVID-19, the more likelihood of exhibiting positive health behaviour and adoption methods of protection. It is also revealed that while social media promote behaviour change, protection and public awareness, it may also infuse panic among the users.

**Keywords:** Social media • COVID-19 • Health awareness • Youth • Protection • Panic

## Introduction

The COVID-19 pandemic erupted around the waning end of 2019 in China, and soon gripped every corner of the world. The disease led to a global epidemic which hasn't ceased to continue ever since. Different parts of the globe have been witnessing waves of COVID-19, one after another, with appearance of new mutations of the virus growing deadlier and stronger taking a heavy toll on human health and lives. The arrival of the pandemic transformed the world in a myriad ways. The way people communicated, behaved and dealt with each other underwent a metamorphosis, with technology becoming the primary tool providing the much needed support in such times. While the digitally driven social media was already an all-time favourite among the netizens, there was a huge shift in the way these media were used and utilised by everyone during the pandemic. Not only was there a huge spike in the rate of adopters of new media, there was also a massive change in how these media were used and utilised to bridge the gap that arose out of social distancing [1].

As far as the information function is concerned, the social media come handy. Research has shown that a lot of people depend on social media to fulfil their information needs on an everyday basis. Internet usage has become far easier and accessible with the advent of smartphones, with the world recording 4.66 billion active internet

users as of January 2021. Interestingly, 92.6% of this population use internet through mobile devices.

Social media platforms also carry a considerable amount of information regarding health issues. The high degree of reach and impact of social media is what makes it an ideal instrument to disseminate useful and important information to the public. In case of a lethal disease like COVID-19, the social media platforms were used by the governments worldwide to increase the level of awareness about the virus. The developing countries have been specially facing a bigger challenge, as they grapple with weak economic infrastructure and poor healthcare systems. It was ideal for them to nip the problem in the bud, and make people understand the value of 'prevention is better than cure'. This would ensure that the lesser the number of people infected, the lesser would be the pressure on healthcare system [2].

## Materials and Methods

Thus, the governments intentionally tried to harness the power of social media to spread their messages to the public. Indeed, not only the governments but a large number of other institutions and activists turned to social media to drive the point home about the dreaded disease. While it can be simply said that social media is an important tool to increase public awareness about significant health issues, the

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efficacy needs to be established through systematic scientific procedures. The present study endeavours to answer such questions about the relationship between social media and public health awareness [3].

### Social media and health

Social media offer a great possibility to successfully make people aware of serious diseases and health issues. Explored whether specific messages precisely designed to increase people's understanding of Human Papilloma Virus (HPV) and cervical cancer were able to accomplish the desired goal. The results revealed that participation in such campaign driven through social media for a short period of time could actually lead to an increase in awareness about HPV. In a post advent of corona world, the overall use of internet has jumped to record new heights. Social media usage also spiked enormously in every country during the lockdowns that ensued, with India being no exception [4].

The social networking sites have also emerged as one of the major sources of acquiring first-hand information by the public. The information is not only received, but also shared further with family and friends. Indeed, the more the world lives online, the more it is shaped by the new media technologies it consumes. Examined the linkages between COVID-19 preventive behaviors and various digital media applications used. It was found that a majority of people actually took preventive measures like washing hands with soap or hand wash, social distancing and wearing masks after being exposed to such messages through the digital media platforms.

The extent and efficacy of social media as a potent tool of providing information to the target population is an area being researched worldwide. It is roped in not only by the masses, but also the experts and veterans. A study conducted by found that the health educators and students in Saudi Arabia extensively used social media as a platform to achieve health awareness objectives leading to better understanding of health issues and improved health habits. Indeed, social media offers infinite possibilities to be exploited by healthcare professionals, patients and the public alike for disease prevention and control.

### Infodemic, misinformation and panic

Social media opens doorways to a world full of useful information, exploited unprecedentedly in the wake of the raging coronavirus pandemic. It is the first pandemic of its kind that saw the world connect in novel ways through new media, which also aided in maintaining their safety, productivity and knowledge. However, this deluge of information projected a downside as well, as it enabled and amplified an 'infodemic' creating hurdles in the pathway of fighting the challenge. Infodemic occurs when there is a barrage of information, be it positive or negative. It may include both calculated and inadvertent efforts to disseminate wrong information to jeopardize the health response of public. Be it misinformation or disinformation, they are very dangerous as they can lead to a detriment in public health measures and cause widespread damage to the countries' faculty to fight the disease. Undeniably an enabler as a source of knowledge and channel of communication, social media is also responsible for a lot of misinformation in the society related to coronavirus disease.

Studied the role of social media in the spread of panic about COVID-19 among the school students of Gaza strip in palestine. The results evinced that Facebook was the most frequently used platform with news about health being the most read, watched or heard. It also revealed that social media contributed considerably to spreading panic, also taking a toll on the students' mental and psychological health. However, the number of students physically affected was quite low.

The 'side effects' of technological advancements have been very much discussed in the recent pestilential times. While the internet-driven media can be immensely handy for combative purposes, they can also wreak havoc to public safety and security, if misused. World Health Organization (2021) conducted a study to find the pattern of 'engagement with technology' of the young adult population from 24 countries across five continents. Interestingly, contrary to the general belief that young adults are largely indifferent to the ongoing crisis, the results exhibited that the majority of the said population was either 'very concerned' or at least 'concerned' about the issue. Moreover, most of them were more worried about the health and safety of their family and friends.

The pandemic has presented blatant examples of how misinformation can cause damage to life and health. In Iran, messages circulating on social media said that drinking methanol alcohol can cure COVID-19. This random piece of information actually led to the death of hundreds of people who followed it blindly. Several other countries also faced similar panicky situations with social media rumours rife about an imminent shortage of food and medicine supplies causing panic buying and price fluctuations. In a study aimed to examine the level of panic in Indian context, it was found to be significantly higher in the people in their 30's as compared to others. The mortality rate owing to COVID-19 was higher in older population, and the younger ones were reportedly equally alarmed. Pertinent to note that the female population was far more panicky than the male counterparts. Executed a study to measure the efficacy of media in warding off the misinformation regarding the use of natural home remedies for coronavirus disease in Saudi Arabia. It was revealed that the government's use of social media platforms achieved positive results in this case.

Projecting some positive figures, a study by showed that while a lot of people may be misled by false information disseminated through social networking sites, there is also a sizeable chunk of people who tend to take things with a pinch of salt. The study based on survey of university students, healthcare workers, and general public indicated that while they all consumed social media, yet for reliable and authentic information about the pandemic they rather turned to the government's health website [5].

### News consumption through social media

Research exhibits that people the use of social media as a news source has been on the rise. Apart from simply socialising with others, these social networking sites have turned out to be favoured sources for receiving news by a considerable chunk (48%) of American adult population, as revealed in a pew research center survey in 2021.

India has also emerged as a hub of social media users with higher penetration of smartphones and internet facility. This has also

resulted in huge transformations in the news media exploiting the digital platform to accomplish far and wider reach. India has a whopping 600 million internet users, who are also active on social media, thus employing their smartphones to satiate their news diet every day. The year 2020 saw this consumption grow even further as the number of people accessing news online increased by nearly 16% [6].

## Theoretical background

The current study takes into account the health belief model by social psychologists hochbaum, rosenstock and others, which avers that when people feel seriously threatened by something, they tend to take preventive measures. These health interventions should address the specific perceptions of individuals about susceptibility and benefits.

A study by attempted to examine how Malaysian Healthcare Practitioners (MHPs) utilised social media to deliver their messages. The According the review of previous related literature, it was found that the factors contributing to the acceptance of social media as a healthcare promotion tools are performance expectancy, effort expectancy, social influence, and facilitating condition [7].

## Objectives and hypotheses

The broad objective of the study is to examine the effect of social media on public health awareness. An extensive review of the existing literature points out that social media may influences users'behaviour, thus projecting a need to explore the relationship between panic, public awareness, behavioural change and protection. The study proposes nine hypotheses to examine the abovementioned constructs:

**Hypothesis 1 (H<sub>1</sub>):** There is a significant effect of behavioural change on protection.

**Hypothesis 2 (H<sub>2</sub>):** There is a significant effect of panic on behavioural change.

**Hypothesis 3 (H<sub>3</sub>):** There is a significant effect of panic on protection

**Hypothesis 4 (H<sub>4</sub>):** There is a significant effect of public awareness on behavioural change

**Hypothesis 5 (H<sub>5</sub>):** There is a significant effect of public awareness on protection

**Hypothesis 6 (H<sub>6</sub>):** There is a significant effect of social media on behavioural change.

**Hypothesis 7 (H<sub>7</sub>):** There is a significant effect of social media on panic.

**Hypothesis 8 (H<sub>8</sub>):** There is a significant effect of social media on protection.

**Hypothesis 9 (H<sub>9</sub>):** There is a significant effect of social media on public awareness.

## Operational definitions

**Social media:** It refers to all internet based platforms that allow the users to communicate, create and share content.

**Behavioural change:** It refers to bringing about a change in an individual's practices as a preventive measure to COVID-19. For example, avoiding handshakes and hugs, social distancing, etc.

**Protection:** It refers to adopting ways to prevent coronavirus infection like wearing masks, using sanitisers, disinfecting surfaces etc.

**Panic:** It refers to the raise in fear and anxiety levels of an individual which may take a toll on one's mental and physical well-being.

**Public awareness:** It refers to the spread of correct information about COVID-19, its causes and prevention among citizens.

The present study was conducted utilising a 5-point Likert scale based questionnaire consisting of 23 questions. The self-administered questionnaire was developed through Google forms and distributed online using convenience sampling. The language of the questionnaire was kept simple and understandable to keep any confusion at bay. The participants were university students in aligarh and NCR region, to specifically represent the educated youth. A total of 250 complete responses were obtained, after weeding out the responses that were incomplete.

## Data analysis

The data has been analysed using smart PLS-SEM (Partial Least Squares Structural Equation Modelling), a method applied to path models involving latent variables to explore complex cause-effect relationships [8].

## Study design

We employed a quantitative method with an exploratory and descriptive design. To confirm the conceptual model of the research and to investigate the research hypotheses, a survey questionnaire was employed to collect data. The target population of this research consisted of all followers on any social media platform in Jordan. To reach them, a web link to the questionnaire was sent to potential respondents during the period between March 15 and March 30, 2020. The questionnaire was prepared in the Arabic and English languages, and 2555 social media users were sampled to collect the data.

## Results

Table 1 summarizes these constructs and their related measurement items. To perform construct validation, the questionnaire content was modified to the practice of Jordanian business culture context based on the results of a pilot study and feedback from six professional academic staff members in this field. The survey instrument was reviewed by a panel of six academic researchers in the areas of marketing and management information systems to guarantee face validity. Consequently, several questions were modified, and the revised questionnaire was used for pilot testing on citizens who lived in Jordan during the COVID-19 pandemic. Indeed, a pretest was conducted with 25 citizens to check the understandability of the questions. Some revisions were made, resulting in an easily understandable survey questionnaire.

Variables	Original sample (O)	Sample mean (M)	Standard (STDEV)	Deviation	T Statistics (SRDEV)	P-values
Behavioural change>protection	0.604	0.6	0.076		7.97	0
Panic>behavioural change	0.125	0.134	0.096		1.295	0.196
Panic>protection	0.075	0.08	0.059		1.283	0.2
Public awareness>behavioural change	0.601	0.597	0.068		8.789	0
Public awareness>protection	0.363	0.36	0.069		5.232	0
Social media>behavioural change	0.367	0.375	0.089		4.12	0
Social media>panic	0.272	0.275	0.119		2.294	0.022
Social media>protection	0.222	0.227	0.067		3.319	0.001
Social media>public awareness	0.555	0.558	0.081		6.874	0

**Table 1.** Descriptive statistics for key variables.

### Effects of behavioural change on protection

H<sub>1</sub> endeavoured to examine whether behavioural change has a significant effect on protection against COVID-19. The results reveal that there exists a strong connection between the two variables (p-value=0).

### Effects of panic on behavioural change and protection

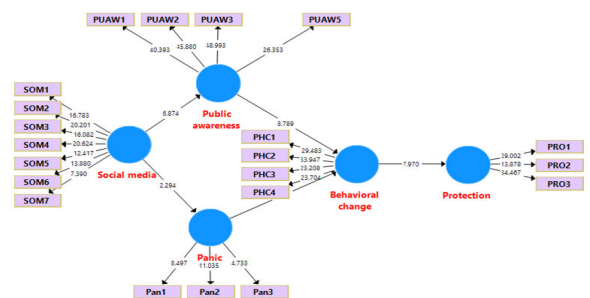
H<sub>2</sub> and H<sub>3</sub> attempt to test the effect of panic created from social media usage on behavioural change and protection. The results indicate an insignificant relationship in both the cases (p-value is 0.196 and 0.20 respectively).

### Effects of public awareness on behavioural change and protection

H<sub>4</sub> and H<sub>5</sub> test the effect of public awareness on behavioural change and protection. The results exhibit that is a significant effect of public awareness about COVID-19 on an individual's behaviour and the protection measures adopted (p-value=0 in both) [9].

### Effect of social media on behavioural change, panic, protection and public awareness

H<sub>6</sub>, H<sub>7</sub>, H<sub>8</sub> and H<sub>9</sub> aim to examine the relationship between social media usage and 'behavioural change, panic, protection and public awareness'. The results show that there is a significant effect of social media usage on all the four variables with p-values in each case being less than 0.05 (p-value=0, 0.022, 0.001, 0 respectively) (Figure 1).



**Figure 1.** The results of the hypothesised model have been illustrated.

## Discussion

The current study employs survey method to explore the connections between social media and health awareness among the youth in India. It strives to investigate various dimensions of social media usage and its connections with behavioural change, protection, panic and public awareness during COVID-19. Bringing about a change in one's habits and following 'COVID-19 appropriate behaviour' is something that government in India has been asking the citizens to comply with. The hypothesis H<sub>1</sub> suggests that a positive change in behaviours (according to COVID protocols) is key to protection against the deadly virus. Also contend that while the pandemic was a result of human actions, it is human behaviour that is vital to abate its attack. The countries able to tackle the menace effectively are the ones where citizens persistently exercised behaviour change en masse [10].

Hypothesis H<sub>2</sub> suggests that there are no effects of panic on behavioural change and protection. The results are in consonance with the observations made by nicomedes and Avila (2020) that overabundance of information from social media leads to anxiety and panic, which is many times visible in social withdrawal and an



increase in obsessive health consciousness which may have rather negative repercussions.  $H_4$  and  $H_5$  show that there is a significant impact of public awareness on behavioural change and protection. Also conclude that social media has huge capability of informing the public leading to behavioural change, thus contributing to public's safety against the coronavirus disease. They suggest a more strategic use of social media platforms to reach the masses and spread the right knowledge pertaining to fight COVID-19.  $H_6$ ,  $H_7$ ,  $H_8$  and  $H_9$  aim to examine the relationship between social media usage and 'behavioural change, panic, protection and public awareness'. The study by also projects similar inferences wherein a heightened use of social media to receive information about COVID-19 increased anxiety levels and led to panic among Egyptian adults. The effect witnessed was mostly psychological in nature [11].

Previous studies have also established that social media has grown in significance as a tool for crisis management during disease outbreaks as its use is related to 'perceived threat and self-efficacy', which are essentially a part of COVID-19 preventive protocol. Found that people were very frequently turning to YouTube, a popular video sharing social media platform, to receive relevant and useful information on coronavirus. When used wisely, social media are great platforms to promote healthy behaviour and boost the public health system. A study based in Lebanon found a good level of awareness about COVID-19 in the adult population with respondents showing cognizance of reasons for spread of the virus along with preventive measures. People who used social media, more so Facebook and whatsapp, were found to be better informed than non-users [12].

The immense potential of social media to act as a catalyst in tackling health crises has been much talked about. Argue that it is a potent tool being utilised by users to look for relevant information in the wake of a disease outbreak, helping them handle the situation effectively. Positive and relevant knowledge about COVID-19 appropriate behaviour can go a long way in tackling the virus. Study determinants of knowledge and behaviours in response to the COVID-19 pandemic in the United States. The results revealed that the increase in knowledge was directly proportional to positive and responsible COVID-19 behaviour. People were more likely to avoid panic buying and huge gatherings, and encouraged to use medical masks. Even in the case of MERS, social media usage was found to have a positive correlation with risk perception of the disease, acting as a source of important information to the public [13].

Similar inferences were drawn by in their study based on exploring the mental health challenges and implications with respect to social media during COVID-19. Social media were found to be crucial resources of health related information leading to sensitization of the masses. Users of social media were more inclined to practice social distancing, frequent hand washing, wearing masks and extending social support. The researchers also observe that taking a break from social media once in a while to ameliorate mental health. Also found substantial and positive role of social media spreading awareness about COVID-19 and promoting preventive behavioural change among the public [14].

## Conclusion

As social media became the focal point of almost all human transactions with the advent of COVID-19, scrutinising its effects and

relationships with health behaviour and practices is essential. Since India is a key player both in terms of social media usage as well as a country badly affected by the pandemic, this study examines the health behaviour of Indian youth with relation to its social media consumption. The results indicate that behavioural change in a person is key to his protection against the lethal virus. While the social media induced panic does not trigger a positive behaviour change, neither does it lead to protective practices. Moreover, it also shows that the higher the level of awareness about COVID-19, the more likelihood of exhibiting positive health behaviour and adoption methods of protection. It is also revealed that while behaviour change, protection and public awareness go hand in hand with social media usage, it also infuses panic among the users, which may have far reaching repercussions.

## Limitations

The study has several limitations, in that, it only considers a small sample size. Similar study using a larger sample size may be conducted. The target population here is only the youth; future researches can focus on other age groups as well. This study talks only about social media, while there are other ways of communication (including traditional) as well and their influence cannot be ignored. Studies can also focus on those modes of communication as well.

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