

Role of social media in the exposure of stress, anxiety and psychological well-being in the phase of COVID-19 pandemic

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ABSTRACT

The COVID-19 pandemic has affected the health, safety, and daily lives of all individuals. Further, the media has led to widespread and diverse information. Such details have created both hope and falsehood regarding the pandemic in our immediate environment. The current study aims to assess the role of social media in the exposure of stress, anxiety and psychological well-being in the phase of COVID-19 pandemic. A sample of 220 participants was selected using purposive sampling technique and the data was compared between two age groups: youth (110) and middle-aged adults (110). The data was collected using the perceived stress scale by Sheldon Cohen, Hamilton Anxiety rating scale by Max Hamilton and subjective psychological well-being scale by WHO. Findings indicated the spread of false information had decreased the psychological well-being of both the groups by two-folds and increased anxiety and stress in the same pattern.

Keywords: *Social media, Stress, Anxiety, COVID-19, Psychological well-being*

Social media sites like Facebook, WhatsApp, Instagram, twitter, etc. give users a platform to form connections and have interactions online. The arrival of coronavirus worldwide has led to a lot of awareness in social media due to increase in the spread of disease and it's concerning complications. Accurate and credible dissemination of correct information about the prevailing coronavirus could help in decreasing the pandemic spread and associated apprehension in the population (Sharma et al., 2017). It is found that the misleading posts are fast spreading and becoming much more popular than the posts dispersing accurate relevant public health information about the novel coronavirus. Ubiquity of social media has made it easier to spread or even create COVID-19 falsehoods, making the current pandemic more difficult for everyone. In order to be effective, especially during a crisis, the flow of information must be credible, transparent, and trustworthy. Some of the fallacious messages such as advising others to eat garlic gargle with salt water, hot steam inhalation, and many such remedies as protection against COVID-19 were widespread among the WhatsApp groups, Instagram, twitter and other social networks. People are

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hungry for information and certitude, and when everything is being contested in public, it creates a lot of confusion among people.

During the current times, the utilization and impact of social media has spurted dramatically. It has been found that people on an average spend 5 hours a day (Sharma, Gupta & Seth, 2020) on social media and due to lockdown, research shows even a further increase in social media usage among all age groups and sections of society, leading to bad physical and psychological health (Hamilton, Bradley and Nesi, 2020). There are thousands of people spreading information, sensationalism, rumors, misinformation and disinformation which is making it a necessity for Governments and experts to fight the pandemic along with the infodemic. This is evident through World Health Organization who is working with SNS companies like Facebook, Pinterest, Twitter, Tencent and TikTok to provide the public with accurate information on time and eliminate misinformation and disinformation, but still various forwarded and inappropriate messages are being spread, leading to perturbation. The observation of such disturbing increased use of social media (SNS) has led to a prediction that the misinformation through SNS has alleviated the stress and anxiety, and lowered the mental well-being among youth and middle-aged adults.

Here comes a question of how is the media responsible for escalation of stress and anxiety among youth and adults, and thus decreasing psychological well-being in the times of COVID-19 pandemic. Collinson, Khan, & Heffernan (2015) had stated that negative coverage by the media when a detrimental social issue arises leads to intake of negative practices and thoughts. This means that people are more likely to become pervasive towards the problem which has a negative impact on mental health on its own and thus, diminishing certain emotional responsiveness among individuals, and when the issue comes into the spotlight, people end up panicking which leads to a chaos in the society and a necessity for well-researched information through media arises. Hence, it is important to examine how social media disseminates stress, anxiety, and lower psychological well-being among youth and middle-aged adults in the phase of covid-19 pandemic and to explore the dynamics of social media in the phase of covid-19 pandemic. Dr. Roger McIntyre (2020), professor of psychiatry and pharmacology at the University of Toronto and CEO of AltMed Capital, recently conducted a study of Chinese healthcare workers that links increased social media utilization in the time of COVID-19 to a worsened mental health state.

During times of uncertainty and crisis, people rely on the media for risk assessments and recommendations for self-protective behaviors. Anxiety increases in the face of an uncertain or uncontrollable threat. Perceptions of danger and anxiety alleviate further when information is anonymous or ineffectively communicated. This media exposure can also create a feedback loop of exposure and distress: People with the greatest concerns may seek out more media coverage of an event, which can further increase their distress. What people see also matters. The final highlight to the study is its implications and limitations. Social media companies can use the data of the study to enhance their programming in spreading authentic information about the current situation among the masses and promoting better mental health.

METHODOLOGY

Objectives

1. To explore the dynamics of social media in the phase of covid-19 pandemic.
2. To examine how social media disseminates stress, anxiety, and lower psychological well-being among youth and middle aged adults in the phase of covid-19 pandemic.

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Hypothesis

H1: False information through social media increases stress across youth more than middle aged adults.

H2: False information through social media increases anxiety across youth more than middle aged adults

H3: False information through social media decreases the psychological well-being across youth more than middle aged adults.

H4: Stress and Anxiety will be negatively correlated to psychological well-being.

Participants

The present study involves an aggregation of 220 participants. The sample was divided into 2 groups, i.e., youth and middle-aged adults with the ages of 18-25 years and 36-55 years. Out of the sample of 220, 110 (50%) were youth and 110 (50%) were middle aged adults. The sample was taken from various social networking sites like WhatsApp, Facebook, Instagram through the distribution of questionnaires from Google forms. Purposive sampling was used to collect the data

Covariates

The following covariates were included in this study: gender, age, educational level (junior high school, senior high school, college and master and higher), marital status (married and other including unmarried, divorced, and widowed), occupation (students/retired, health care worker and others), cities (Delhi and others), area (urban and rural).

Design of the Study

The purpose of the study was to see how diverse platforms of social media, along with creating knowledge, have created a large amount of false information about COVID-19 Pandemic leading to increase in stress, anxiety, and lower psychological well-being among youth and middle aged adults. A quantitative research design was followed where we tried to explore and seek answers to our given hypothesis. The material used for the collection of the data was Perceived Stress scale, Hamilton's Anxiety Scale and WHO-5 Well-Being Index. The sample was selected on the basis of purposive sampling method with the help of the standardized tools. The data was collected by various online platforms and social media sites. The sample size of the study is 220. After the accumulation of data, MANOVA and Pearson correlation was applied on the sample through the tool of SPSS to get the results.

Procedure

The aim of the present study was to investigate the role of social media in the exposure of stress, anxiety and psychological well-being in the phase of covid-19 pandemic. A comparison was made between youth and middle aged adults. Consent was taken from participants. Purposive sampling was used to collect the data through various online platforms. The participants were assured that their responses would be kept confidential and all the data was recorded respectively. Later, the participants were debriefed after they finished the questionnaire. The responses were uploaded on SPSS software and Pearson's correlation and MANOVA was used to analyse the score. Finally, the results were found.

Tool Description

- 1. PERCEIVED STRESS SCALE:** The Perceived Stress Scale (PSS) is the most widely used psychological instrument for measuring the perception of stress. The items in this scale were made to tap the unpredictability, uncontrollability, and

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overloaded lives of the participants. Basically, it means to measure present level of experienced stress. It is a 10-item self-report measure which is made to examine “the degree to which situations in one’s life is appraised as stressful” (Cohen, Kamarck, & Mermelstein, 1983, p. 385). This scale was intended to be used with community samples of adolescents or adults with an educational level of junior high school or more. Also, half of the questions in the scale are positively stated and reverse coded. Every item is rated on a 5-point scale (0 = Never, 1 = Almost never, 2= sometimes, 3= fairly often, 4=very often). The Scoring of PSS are attained by reversing responses (e.g., 0 = 4, 1 = 3, 2 = 2, 3 = 1 & 4 = 0) to the four positively stated items (items 4, 5, 7, & 8) and then calculating the total across all scale items.

2. **HAMILTON ANXIETY SCALE:** The HAM-A was one of the first rating scales developed to measure the severity of anxiety symptoms, and is still widely used today in both clinical and research settings. The Administration time of this scale is 10–15 minutes. The basic main purpose of this scale to examine the severity of symptoms of anxiety in the population of Adults, adolescents and children. The scale consists of 14 items [each defined by a series of symptoms, and measures both psychic anxiety (mental agitation and psychological distress) and somatic anxiety (physical complaints related to anxiety)]. The scale has high interrater reliability. Further, Each item is scored on a scale of 0 (not present) to 4 (severe), with a total score range of 0– 56, where <17 indicates mild severity, 18–24 mild to moderate severity and 25–30 moderate to severe.
3. **WELL BEING INDEX:** The World Health Organization Well-Being Index (WHO-5) is a short and generic global 5- item rating scale measuring subjective well-being. The WHO-5 was derived from the WHO- 10, which in turn was originated from a 28-item rating scale used in a WHO multicenter study in 8 different European countries. This scale has found to have adequate validity in screening for depression and in measuring outcomes in clinical trials. Item response theory analyses in studies of younger persons and elderly persons indicate that the measure has good construct validity as a unidimensional scale measuring well-being in these populations (Winther Topp et al., 2015). This scale basically has five statements, to which respondents’ rate (All of the time = 5, Most of the time = 4, More than half of the time = 3, Less than half of the time = 2, some of the time = 1, At no time = 0). The total raw score, ranging from 0 to 25, is multiplied by 4 to give the final score, with 0 representing the worst imaginable well- being and 100 representing the best imaginable well-being.

RESULTS

The findings of this study were pretty interesting. The study explored how social media plays a crucial role in disseminating anxiety, stress, and lowering psychological well-being. Therefore, four hypotheses were formed to explore the same.

H1: False information through social media increases stress across youth more than middle aged adults.

The findings for the first hypothesis was that stress was higher among youth than middle aged adults because of misinformation ($F(1, 218) = 15.559; p < .0005$). Further, the mean of youth (19.59) was higher than middle aged adults (16.50). The results are evident through table 1, 2 and 3.

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H2: False information through social media increases anxiety across youth more than middle aged adults

The results for this hypothesis showed a statistically significant impact of social media upon the anxiety across youth and middle aged adults ($F(1, 218) = 12.871; p < .0005$; given in table 2 and 3). In addition, as per the HAM-A Scale, the mean of youth and middle-aged adults was 13.16 and 9.00 respectively, which was in the range under 17 indicating mild severity in the anxiety of both the groups, but more in youth than the latter which can be seen through table 1.

H3: False information through social media decreases the psychological well-being across youth more than middle aged adults.

Interestingly, social media also had a statistically significant impact on the psychological well-being among youth and middle aged adults ($F(1, 218) = 16.666; p < .0005$). Furthermore, through table 1, it becomes clearer that youth with a mean of 17.35 was experiencing poorer mental well-being than middle aged adults with a mean of 27.11. the findings are given in table 1, 2, and 3.

Hence, all the three above hypotheses (alternate hypothesis) were accepted and null hypothesis was rejected.

Table 1: Mean, S.D., and N of Youth and Middle-Aged Adults

Descriptive Statistics				
	Groups	Mean	Std. Deviation	N
Anxiety	youth	13.16	9.015	110
	adult	9.00	8.178	110
	Total	11.08	8.837	220
Stress	youth	19.59	5.922	110
	adult	16.50	5.698	110
	Total	18.05	6.001	220
Wellbeing	youth	17.35	8.705	110
	adult	27.11	10.713	110
	Total	44.46	19.418	220

Table 2: COVID-19 has a significant effect in the stress, anxiety and well-being among youth and middle-aged adults

Multivariate Tests ^b						
	Effect	Value	F	Hypothesis df	Error df	Sig.
Groups (Youth & Middle Aged Adults)	Pillai's Trace	.097	7.745 ^a	3.000	216.000	.000
	Wilks' Lambda	.903	7.745 ^a	3.000	216.000	.000
	Hotelling's Trace	.108	7.745 ^a	3.000	216.000	.000
	Roy's Largest Root	.108	7.745 ^a	3.000	216.000	.000
a. Exact statistic						
b. Design: Intercept + age						

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Table 3: Statistical significant effect of COVID-19 on stress, anxiety and psychological well-being among youth and middle aged adults

Source	Dependent Variable	Tests of Between-Subjects Effects				
		Type III Sum of Squares	Df	Mean Square	F	Sig.
Age	Anxiety	953.473	1	953.473	12.871	.000
	Stress	525.455	1	525.455	15.559	.000
	wellbeing	5243.073	1	5243.073	16.666	.000
Error	Anxiety	16149.055	218	74.078		
	Stress	7362.091	218	33.771		
	wellbeing	68581.564	218	314.594		
Total	Anxiety	44120.000	220			
	Stress	79528.000	220			
	wellbeing	1068116.000	220			
Corrected Total	Anxiety	17102.527	219			
Total	Stress	7887.545	219			
	wellbeing	73824.636	219			

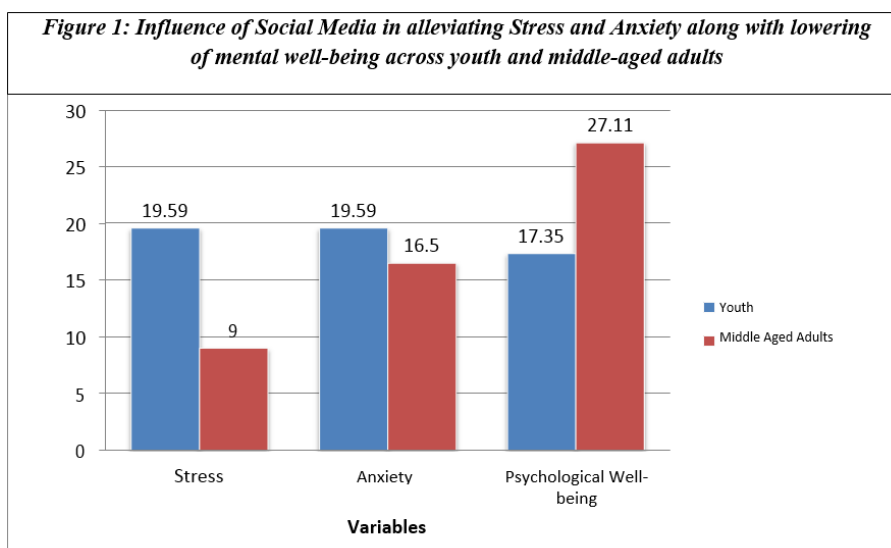
H4: Stress and Anxiety will be negatively correlated to psychological well-being.

The final hypothesis showed an inverse relationship between psychological well-being, and anxiety and stress. This infers that Stress and anxiety were negatively correlated with levels of psychological well-being (-.506 and -.429 at 0.01 level respectively). This means that as the levels of stress and anxiety of the individuals goes up, the subjective psychological well-being or the quality of life of the person degrades down and vice versa. The result is evident below in table 4 and can be better understood through figure 1.

Table 4: Correlation of stress, anxiety, and psychological wellbeing among youth and middle aged adults

Pearson's Correlation	Groups	Stress	Anxiety	Wellbeing
Groups	1			
Stress	-.256**	1		
Anxiety	-.211**	.558**	1	
Wellbeing	.266**	-.506**	-.429**	1

** . Correlation is significant at the 0.01 level (2-tailed).



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The above results indicate how detrimental social media has become in this grave situation of COVID-19.

DISCUSSION

The current study explored social media as a dynamic informative medium in the time of Coronavirus pandemic. Media is a medium through which all sorts of information is conveyed to the receiver by the sender along with feedback. One type of media is social media, in better words, the virtual platform for everyday conversations. With the advancement in technology, people have opted for this virtual world for conveying their feelings, or emotions. However, this medium has created more forgery of messages rather than conveying the bitter truth especially in the times of pandemic. Duffy and Allington (2020) have depicted that users are using social media platform like Facebook to create conspiracy theories and fake content in regards to coronavirus which is creating confusion among the audience.

Furthermore, in this study, it was observed on the basis of the data of participants that various false information, rumors, and fake news on vaccines, and COVID-19 are propagated through the medium of social media which has created apprehension, and stress among people. Similarly, Gao et al. (2020) has shown that social media exposure has generated depression and anxiety among the Chinese population. Moreover, the findings of this research portrayed higher anxiety, higher stress and lower psychological well-being (evident through figure 1). This can be portrayed in a mathematical equation which is given as follows:

$$\text{Stress} \propto \frac{1}{\text{Psychological well-being}}$$

[Stress is inversely proportional to psychological well-being]

$$\text{Anxiety} \propto \frac{1}{\text{Psychological well-being}}$$

[Anxiety is inversely proportional to psychological well-being]

The above equations make it clear that the more stress and anxiety among youth and middle aged adults, the poorer the mental well-being. Also, the comparison in the results of this research indicates how much youth is more affected by the misinformation of COVID-19 pandemic which has led to the questioning of their own future, such as getting a job, their safety as a human, whether they will be the next infected person, how to complete education and so much more. The group of middle aged adults are equally affected but their mental well-being is still better than youth as they have worries of their employment, family and other personal needs. However, they are on the same page with youth when it comes to stress and anxiety. This can be further elaborated: 76.3% of youth and 70.90% of middle aged adults rated moderate levels of stress from the outbreak; and 64.5% of youth and 81.8% of adults reported low anxiety symptoms; and 55.4% of middle aged adults and 83.6% of youth reported low psychological well-being. The results can be supported by a

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study by Limacaoco et al. (2020) who examined the anxiety, worry, and perceived stress of people around the world. The findings of this study depicted that women and youth mainly showed high stress and signs of worry and anxiety. Finally, mental health of individuals can be taken care of, by using the data of this study to change the programming of various SNS platforms like Facebook, Instagram, Twitter etc. and create more awareness of COVID-19 and healthy use of social media. Also, the suggestion of certain links to falsehood of messages should be decreased. Moreover, the present study can help the Indian Government by making them aware about the mental health of their citizens caused by misinformation. The government can involve media agencies, journalists and other digital agents to make the citizens aware about how the mortality rate in the country is decreasing drastically which will create hope among people in this time of crisis.

Furthermore, in this study, there were certain inclusion and exclusion criteria. Participants who had access to internet connection and smartphones, could understand English, and provided consent for the participation were included. Meanwhile, physically handicapped mentally challenged and the illiterate population was excluded. Also, elderly were excluded due to lack of understanding of technology and education. Lastly, confidentiality of responses was maintained, outliers were excluded, original data was used and consent was given by respondents. Finally, this study had some limitations. First is difficulty collecting data because the questionnaires were spread through virtual platforms due to lockdown. Secondly, the responses by certain participants didn't seem to be honest in nature as they marked one option for all questions. Third, other forms of media like television, newspapers, radio wasn't included in this study. Finally, this study has a scope of improving by increasing the population size in order to generalize the overall paper.

CONCLUSION

The Coronavirus pandemic has created havoc in the world with more than 20 million cases worldwide. The pandemic has been portrayed negatively through various sites and applications of social media. The spread of misinformation has disturbed the mental health of people which is transparent through this research. Henceforth, the need for proper and sufficient usage of social media is required through this turbulent period with more focus on positivity and less usage of the hate messages.

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Conflict of Interest

The author declared no conflict of interest.

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