

Does Covid-19 Affect Psychological Well-Being in Humans?

Mahima Verma¹, Nupur Gosain^{1*}

ABSTRACT

The present study tried to understand the psychological well-being of the individuals specifically during the second wave of covid-19. The study attempted to understand effect of some variables that might have had caused differences in the psychological well-being of individuals namely, covid infection (self/family), gender difference, vaccination status, media influences and animal intervention. The study population consisted of Indian students, living with their families, belonging to the age group of 15-23 years. The data was collected during the second covid wave through a google form. Sample of 55 participants was collected using purposive sampling method. Ryff's Psychological Well-Being Scales (PWB) was administered to assess the psychological well-being of the participants. The data collected was analyzed using t-test. Mean and standard deviations were calculated. Pie charts were used to depict the descriptive information. The study concluded that the mean of PWB of people was slightly more if they were not infected by covid (self/family), males or vaccinated/partially vaccinated than if they were infected by covid (self/family), females or not vaccinated/could not be vaccinated respectively. The mean of PWB was slightly more of people who felt that the news reflected by media was inconsistent with the reality than those who felt the news reflected by the media was consistent with the reality. The mean of PWB of people who felt that the news reflected by media was highest when they felt the news was problem-oriented than neutral and then solution-oriented. The major population (40%) was exposed to news through Social media platforms (Instagram, Facebook, WhatsApp etc). The people who reported to have decreased news exposure showed slightly higher PWB than those who showed increased or no change in time of news exposure. People who reported having a pet or increased/average interaction with stray animals reported having slightly less PWB than people who reported to not having a pet or decreased interaction with stray animals.

Keywords: *Pandemic, Psychological Well-being, Covid-19*

1. Introduction

The Infectious disease, Covid-19 a respiratory disease changes the lifestyle of people all over the world.

The novel coronavirus disease (Covid-19) outbreak, which began in a seafood market in Wuhan, Hubei Province, China, in mid-December 2019, has now spread to 215

countries around the world. On March 11, 2020, the World Health Organization proclaimed Covid-19 a pandemic. (Covid-19 National Clinical Management Protocol)

The first case of the Coronavirus in India was reported in Kerala on January 27, 2020. To control the surge of the virus the first lockdown was imposed on March 23, 2020, having 251

¹ Department of Psychology, Shaheed Rajguru College of Applied Sciences for Women, University of Delhi

* Corresponding Author ✉ gosain.nupur1991@gmail.com

corona cases all over India and 32 deaths being reported. The first wave of covid-19 was recorded in September 2020, which had caused massive destruction. After the decline of the first wave, lack of carelessness and an impression of having had victory over the virus was a feeling quite predominant among the population. After almost 6 months of the first wave of the corona, India suffered a sudden increase in corona cases defining a visible warning of the approaching second wave. By June 10, 2021 India became the second most badly infected country with the coronavirus after the USA. The second wave noticed higher amounts of Asymptomatic patients admitted, higher amounts of patients showing breathlessness. During the second wave, according to Dr Bhargava, the unexpected increase in cases caused fear and a demand for more oxygen. The second wave was reported to be the worst-hit tragedy for India after the partition (reports India today). On July 14, 2021 (Times of India) reported the Second wave to have 1 Lakh more deaths than suffered in the First Wave of covid. India's official Covid-19 death count by the end of June 2021 was 4,00,000. "The reality is, of course, catastrophically worse," stated a report prepared by the Centre for Global Development. Interviews from cremation grounds across the country, where the fires never stop, indicate a pattern of deaths that considerably outnumbers the official estimates. (New York times)

The pandemic in the second wave posed destruction to a massive level. It imposed quarantine to control the spread of the virus, which led to major lifestyle changes. It affected humans in almost every perspective possible way and induced changes. The changes affected the population biologically, psychologically, financially, socially and technologically and posed many to the position where their survival was at risk. The pandemic posed to be an obstacle to the efficient functioning of the mental health of many individuals. (Shi, L., Lu, Z. A., Que, J. Y., Huang, X. L., Liu, L., Ran, M. S., Gong, Y. M., Yuan, K., Yan, W., Sun, Y. K., Shi, J., Bao, Y. P., &

Lu, L. (2020)). The pandemic has been a period of severe uncertainty. People reflected fear of death and sudden grief of losing their loved ones inducing a feeling of meaninglessness in many (Menzies, R. E., Neimeyer, R. A., & Menzies, R. G. (2020)). Growing incidences of anxiety, pain, insomnia and distress have been reported widely across nations (Rossi R., Socci V., Talevi D., Mensi S., Niolu C., Pacitti F., et al. (2020)). The quarantine-imposed feelings of loneliness, hopelessness, and helplessness (Guo, Q., Zheng, Y., Shi, J., Wang, J., Li, G., Li, C., ... & Yang, Z. (2020))

According to Ryff et al. (1989), psychological well-being refers to the extent to which people feel that they have meaningful control over their life and their activities

Richard Burns (2016) defines psychological well-being as inter-and intra-individual levels of positive functioning that can include one's relatedness with others and self-referent attitudes that include one's sense of mastery and personal growth.

The phrase "psychological well-being" is used to describe an individual's emotional health and overall functioning. The author of a study published in *Applied Psychology: Health and Well@Being* Wiley-Blackwell describes psychological well-being as "the combination of feeling good and functioning effectively."

Psychological well-being has generally been associated with good health and long lives.

More broadly, research on well-being shows that well-being is relatively stable over time (Anglim et al., 2015; Fujita, F., & Diener, E. (2005); Schimmack, U., & Oishi, S. (2005)) and it does have a hereditary component (Røysamb et al., 2018; Weiss et al., 2008), but life events do influence well-being (Luhmann et al., 2012)

The Six - factor Psychological well-being of Carol Ryff determines psychological well-being as a determinant of 6 factors namely Autonomy, Environmental Mastery, Personal Growth, Purpose in life, Self-acceptance and Positive relations.

Score in Self-acceptance defines the kind of relationship towards self, Score in Positive relations is a reflection of relationships with others, Score in Autonomy explains about level of independence and self-determination in one's life, Score in environmental mastery is about a sense of mastery or control about managing with one's environment and score in Purpose of life indicates the level of personal meaning in one's life, goals and sense of directedness. Personal growth scores could refer to the level of development and growth that one feels in their lives. (Ryff, C. D., & Keyes, C. L. M. (1995)).

The variables assessed in the study include covid infected/not infected (self/family), gender differences, vaccinated and partially vaccinated / non vaccinated, media influences {source (Newspaper, TV news channels, YouTube news channels, International news, Instagram, News applications etc), quality of the news (felt consistent or inconsistent with the real condition), content (problem-orientated, neutral or solution-orientated) and duration }and human-animal interaction.

2. Review of Literature

Akulwar-Tajane, I., Parmar, K. K., Naik, P. H., & Shah, A. V. (2020). Rethinking screen time during COVID-19: impact on psychological well-being in physiotherapy students. *Int J Clin Exp Med Res*, 4, 201-16. The present study strengthens the existing scientific evidence for the negative impact of excessive screen time on mental and physical health while providing new insights on digital media use during the pandemic situation.

Anand, V., Verma, L., Aggarwal, A., Nanjundappa, P., & Rai, H. (2021). The frequency of significant distress among Indians at the time of COVID-19 is confirmed by this study. The respondents (N = 1060) who are more likely to be distressed are between the ages of 21 and 35, females (OR = 1.425), those working on site (OR = 1.592), those with pre-existing medical conditions (OR = 1.682), those who do not have health insurance coverage for COVID-19 (OR = 1.884), those who perceive COVID-19 to be serious (OR = 1.239), those who lack trust in

government (OR = 1.246), and those whose basic needs' fulfilment are unsatisfactory (OR = 1.592).

Dodd, R. H., Dadaczynski, K., Okan, O., McCaffery, K. J., & Pickles, K. (2021). Psychological well-being and academic experience of university students in Australia during COVID-19. *International Journal of Environmental Research and Public Health*, 18(3), 866. COVID-19 has posed substantial issues for higher education institutions, as well as causing severe interruptions in teaching and learning. An online cross-sectional survey of 787 university students (18+ years) currently studying at an Australian institution was conducted to investigate the psychological well-being of local and international university students during the COVID-19 epidemic. In total, 86.8% reported that COVID-19 had significantly impacted their studies. Overall, 34.7% of students reported a sufficient level of well-being, while 33.8% showed low well-being and 31.5% very low well-being.

Mazumdar, K., Sen, I., Gupta, P., & Parekh, S. (2021). Psychological well-being of Indian mothers during the COVID-19 pandemic. *International Perspectives in Psychology*. In this study, 242 urban Indian mothers were asked about their psychological well-being (PWB), self-compassion, psychological inflexibility (PI), and parenting stress (PS). The participants' psychological well-being was linked to greater self-compassion (SC), less psychological rigidity (PS), and better psychological flexibility, according to regression analysis. The findings of this study contribute to maternal mental health research by demonstrating that SC, PI, and PS are related to the PWB of urban Indian mothers, even in the context of the COVID-19 crisis, highlighting the need for evolving gender-based policies and emphasizing specific interventions for this vulnerable population.

Satpathy, B., & Ali, E. (2020). A study on the psychological well-being of final year management students during COVID-19 pandemic lockdown in India. *International Journal of Indian Psychology*, 8(2), 1-25. The

focus of this research is to determine the amount of anxiety, despair, and stress experienced by students during the COVID19 outbreak. The online survey surveyed 80 MBA students in Western Odisha, India, out of a total of 250. EXCEL and MAXQDA software were used to do a two-step analysis. The information was gathered using the DASS21 questionnaire. Mental tension, career, and negative psychology (with maximum hits ranging from 80 per cent) are the leading causes of depression among students, as well as other factors such as economic downturn, financial troubles, future life, social distress, life satisfaction, and job offer rejected.

3. Rationale

The rationale of the study involves learning from the past deliberating experiences of the second wave of corona that hit India to be better able to deal with the situation that might occur in future with the present condition of increases in cases. The study aims to understand psychological well-being of individuals at the time of second wave of Covid-19. The study attempts to explore any existing differences in psychological being with respect to the following variables such as covid infection (self/family), gender difference, vaccination status, media influences and animal intervention in the sample. With the potential of an approaching wave, the present study attempts to identify vulnerable groups and aims to inculcate preparedness. This study will help in better managing the mental health crisis that the disease indicates to foster. This research study will be beneficial to government, organizations, educators, scholars, psychologists, and the mental health community, and will add a contribution to its field. The findings of this study will be valuable in understanding the challenges of the pandemic to an individual's psychological well-being. The findings of this paper will be beneficial to understand the effects of pandemic apart from its biological and economical damages. This research study was conducted during the lockdown in India and the results derived through it are original in nature which

would help to understand the construct in the Indian context.

4. Objective

1. To study the differences in the psychological well-being of Covid infected and not infected (self/family) populations.
2. To study the gender differences in the psychological well-being of the sample during India's second wave of covid-19
3. To study the effects of covid vaccination status on the psychological well-being of the population.
4. To understand the effects of media influences on the psychological well-being of the population.
5. To understand the effects of human-animal interactions on psychological well-being.

5. Hypothesis

- H1: There would be differences in the mean of psychological well-being of Covid infected and not infected (self/family) individuals.
- H2: There would be gender differences in the mean of psychological well-being of the individuals during India's second wave of covid-19.
- H3: There would be differences in the mean of psychological well-being depending on the covid vaccination status.
- H4: There would be differences in the mean of psychological well-being depending upon the media influences of individuals.
- H5: There would be differences in the mean of psychological well-being of individuals depending upon human-animal interactions.

6. Method

Sample

The sample of the population included 55 participants. All the participants lived before the pandemic or were presently living in Delhi/NCR. All the individuals in the study were financially dependent and pursuing their studies. All the individuals were living with their families at the time of data collection. The sample included 18

males and 37 females. The sample selected for data collection had average income during the time of the pandemic and the economic survival crisis was a variable that was attempted to avoid. Non-probability purposive method of data collection was used to collect the data. Demographic details like gender, age, financial status, parents' income, etc. were recorded. The data was collected from the sample during the second wave of corona in India.

Tools

Psychological well-being scale - To measure psychological well-being among the sample, the psychological well-being scale constructed by Carol Ryff (Ryff, C. D. (1989)) was used. This test is simple and highly efficient. This test measures Autonomy, Environmental Mastery, Personal Growth, Positive Relations, Purpose in Life and Self-Acceptance. This scale consisted of 42 items about the sub-categories. This scale is a seven-point rating scale having seven alternative response categories, ranging from (1) strongly agree; (2) somewhat agree; (3) a little agree; (4) neither agree nor disagree; (5) a little disagree; (6) somewhat disagree; (7) strongly disagree. Higher scores indicate a greater state of psychological well-being.

Scoring

The scoring of the questionnaire was done according to the protocol prescribed. The question numbers # 3, 5, 10, 13, 14, 15, 16, 17, 18, 19, 23, 26, 27, 30, 31, 32, 34, 36, 39, 41 were negatively scored (i.e., if the scored is 5 in one of these items, the adjusted score is 2 and so on..) and other questions were scored positively. Finally, a total score for everyone was calculated. The question dedicated to each dimension was as follows:

Autonomy: items 1, 7, 13, 19, 25, 31, 37

Environmental mastery: items 2, 8, 14, 20, 26, 32, 38

Personal Growth: items 3, 9, 15, 21, 27, 33, 39

Positive Relations: items 4, 10, 16, 22, 28, 34, 40

Purpose in life: items 5, 11, 17, 23, 29, 35, 41

Self-acceptance: items 6, 12, 18, 24, 30, 36, 42

Procedure

The objective of the present study was to understand psychological well-being of individuals at the time of second wave of Covid-19 in India. The study attempts to explore any existing differences in psychological being with respect to the following variables such as covid infection (self/family), gender difference, vaccination status, media influences and animal intervention in the population. The study population consisted of students belonging to the age group of 15-23 years. For the quantitative research, there was a sample of 55 individuals. A purposive sampling method was used to collect the data. All the participants were before the pandemic or presently living in Delhi/NCR. All the individuals in the study were financially dependent and pursuing their studies. All the individuals were living with their families at the time of data collection. The sample included 18 males and 37 females. The sample selected for data collection had average income during the time of the pandemic and the economic survival crisis was a variable that was attempted to avoid. The google form was developed and everyone was asked to fill out the questionnaire which took approximately 15 minutes. Demographic details like gender, age, financial status, parents' income, etc were recorded. The ethical considerations were also mentioned in the form. Participants were informed about the nature and purpose of the study and informed consent was obtained from interested participants stating that the questions answered would be kept anonymous and the identity of the participants would be kept confidential. Participation was completely voluntary and could be terminated at any time. They were assured that their responses would be recorded honestly and confidentially. Finally, the selected participants fulfilling the inclusion/ exclusion criteria were given relevant instructions for completing the questionnaires. All the participants were administered the questionnaire. Scoring and statistical approaches were then implemented on the data to make further interpretations.

Table-1: The mean scores and standard deviation of the psychological well-being of sample groups not affected by covid (self/family) and affected by covid (self/family)

Average of Not infected by Covid	Average of Have been infected by Covid (self/family)	SD of Not infected by Covid	SD of Have been infected by Covid (self/family)
167.2972973	165.1111111	20.49913937	22.32352726

7. Results

The mean of psychological well-being of people not infected by covid (self/family) has been reported to be slightly more than that of people infected by covid (self/family). Autonomy, Positive Relations, and Self-acceptance have been reported to be slightly high in people not infected by covid (self/family) than that of people infected by covid (self/family). While Environmental mastery, Personal growth and Purpose in life seems to have been reported to be slightly high in people infected by covid (self/family) than not infected by covid (self/family). Much supported by the research Fallon, N., Brown, C., Twiddy, H., Brian, E., Frank, B., Nurmikko, T., & Stancak, A. (2021). Responses indicated that people with chronic pain perceived increased pain severity, compared to their estimation of typical pain levels before lockdown ($p < .001$). They were also more adversely affected by lockdown conditions compared to pain-free individuals, demonstrating greater self-perceived increases in anxiety and depressed mood, increased loneliness, and reduced levels of physical

exercise. A high degree of psychological distress was reported during such pandemics, particularly among healthcare workers, quarantined individuals, and SARS survivors and their family members (Brooks et al. 2020; Gardner, P. J., & Moallem, P. (2015).; Tsang et al. 2004). Factors independently associated with negative mental health outcomes included having confirmed or suspected COVID-19 (Shi, L., Lu, Z. A., Que, J. Y., Huang, X. L., Liu, L., Ran, M. S., ... & Lu, L. (2020)).

On studying the gender differences males reported to have slightly more mean psychological well-being than females. Supported by Anand, V., Verma, L., Aggarwal, A., Nanjundappa, P., & Rai, H. (2021) study, The respondents (N = 1060) who are more likely to be distressed, are females. Autonomy, Environmental mastery, Purpose in life and Self-acceptance have been reported to be slightly more in males. While Personal growth and Positive relations have been reported to be slightly more in females. Females tend to report more distress (Chen, X., Gao, H., Zou, Y., & Lin, F. (2020)). The pandemic had a more

Table-2: The mean scores and standard deviation of the sample groups not affected by covid (self/family) and affected by covid (self/family) on the 6 dimensions of psychological well-being

	Autonomy		Environmental mastery		Personal Growth		Positive Relations		Purpose in life		Self-acceptance	
	Not infected by Covid	Have been infected by Covid (self/family)	Not infected by Covid	Have been infected by Covid (self/family)	Not infected by Covid	Have been infected by Covid (self/family)	Not infected by Covid	Have been infected by Covid (self/family)	Not infected by Covid	Have been infected by Covid (self/family)	Not infected by Covid	Have been infected by Covid (self/family)
MEAN	27.919	26.785	24.811	25.056	29.757	30.5	28.405	27.056	28.486	29.398	26.27	25.222
SD	4.867	5.2861	3.928	3.8421	3.932	4.301	5.823	5.184	4.741	5.73	5.984	6.366

Table-3: The t-test scores of the psychological well-being of sample groups not affected by covid (self/family) and affected by covid (self/family).

t	P	Sample (N)
2.039513446	0.72879588	55

Since $p > 0.05$, therefore there is insignificant difference shown between psychological well-being of sample groups not affected by covid (self/family) and affected by covid (self/family).

The mean of psychological well-being of people who were vaccinated or partially vaccinated have been slightly more than that of people who were not vaccinated or could not be vaccinated with any of the covid vaccine. Autonomy, Environmental mastery, Personal growth and Self-acceptance have been reported to be slightly more in people who were vaccinated or partially vaccinated. Positive relations and Purpose in life have been reported to be slightly more in people who were not vaccinated or could not be vaccinated with any of the covid vaccines. Supported by Bagues, M., & Dimitrova, V. (2021).

The mean of psychological well-being of people who were vaccinated or partially vaccinated have been slightly more than that of people who were not vaccinated or could not be vaccinated with any of the covid vaccine.

Autonomy, Environmental mastery, Personal growth and Self-acceptance have been reported

to be slightly more in people who were vaccinated or partially vaccinated. Positive relations and Purpose in life have been reported to be slightly more in people who were not vaccinated or could not be vaccinated with any of the covid vaccines. Supported by Bagues, M., & Dimitrova, V. (2021).

Table 6-: The t-test scores of the psychological well-being of sample males and females.

t	P	Sample (N)
2.005746	0.426775	55

Since $p > 0.05$, therefore there is insignificant difference shown between psychological well-being of sample groups males and females.

The mean of psychological well-being of people who felt that the news reflected by media was inconsistent with the reality reported to have slightly more mean psychological well-being than those who felt the news reflected by the media was consistent with the reality. Supported by the study (Anand, V., Verma, L., Aggarwal, A., Nanjundappa, P., & Rai, H. (2021)) The respondents (N = 1060) who are more likely to be distressed, are those who have lack of trust in government. Autonomy, Environmental mastery, Purpose in life and Personal growth have been reported to be slightly more in people who felt that the news reflected by media was inconsistent

Table-4: The mean scores and standard deviation of the psychological well-being of sample males and females

Average of Male Psychological Well-being	Average of Female Psychological Well-being	SD of Male Psychological Well-being	SD of Female Psychological Well-being
169.8333333	165	21.00210074	21

Table-5: The mean scores and standard deviation of the sample groups males and females on the 6 dimensions of psychological well-being

	Autonomy		Environmental mastery		Personal Growth		Positive Relations		Purpose in life		Self-acceptance	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
MEAN	28.222	27.189	25.667	24.514	29.944	30.027	27.667	28.108	29.056	28.649	27.722	25.054
SD	5.012	5.087	3.955	3.819	4.746	3.708	5.851	5.566	3.857	5.583	6.666	5.651

Table-7: The mean scores and standard deviation of the psychological well-being of sample vaccinated/partially vaccinated individuals by covid-19 vaccine and not vaccinated/cannot be vaccinated, individual

Average of Psychological Well-being of Vaccinated/ Partially Vaccinated Individuals	Average of Psychological Well-being of Not vaccinated/ cannot be vaccinated Individuals	SD of Psychological Well-being of Vaccinated/Partially Vaccinated Individuals	SD of Psychological Well-being of Not vaccinated/ cannot be vaccinated Individuals
167.6521739	165.8125	21.99299206	20.45520282

with the reality. Positive relations and Self-acceptance have been reported to be slightly more in those people who felt the news reflected by the media was consistent with the reality.

Table-8: The t-test scores of the psychological well-being of sample vaccinated/partially vaccinated individuals by covid-19 vaccine and not vaccinated/cannot be vaccinated, individual

t	P	Sample (N)
2.014103	0.754208	55

Since $p > 0.05$, therefore there is insignificant difference shown between psychological well-being of sample groups that were vaccinated/partially vaccinated individuals by covid-19 vaccine and not vaccinated/cannot be vaccinated, individual.

The mean of psychological well-being of people who felt that the news reflected by media was highest when they felt the news was problem-oriented than neutral and then solution oriented.

Environmental mastery, Personal growth and Purpose of life was slightly more in Problem-Oriented and similar in Neutral and Solution-Oriented content. Autonomy was slightly more in neutral content than problem-oriented than solution-oriented.

Positive relations were slightly less in people who watched media content that was solution-oriented and was similar in neutral or problem-oriented. Self-acceptance was slightly less in people who watched media content that was problem-oriented and was similar in neutral or solution-oriented content.

Table-9: The mean scores and standard deviation of the psychological well-being of the sample who felt that the news reflected by the media was consistent with reality and those who felt it was not

Average of psychological well-being of people who felt that media was consistent	Average of psychological well-being of people who felt that media was not consistent	SD of psychological well-being of people who felt that media was consistent	SD of psychological well-being of people who felt that media was not consistent
166.0882353	167.3809524	21.75673723	20.01868175

Table-10: The mean scores and standard deviation of the sample groups who felt that the news reflected by the media was consistent with reality and those who felt it was not, on the 6 dimensions of psychological well-being

	Autonomy		Environmental mastery		Personal Growth		Positive Relations		Purpose in life		Self-acceptance	
	Was Consistent	Not Consistent	Was Consistent	Not Consistent	Was Consistent	Not Consistent	Was Consistent	Not Consistent	Was Consistent	Not Consistent	Was Consistent	Not Consistent
MEAN	26.882	28.571	24.706	25.19	29.853	30.238	28.647	26.857	28.294	29.571	26.235	25.429
SD	4.29	6.03	3.78	4.08	4.34	3.56	5.44	5.84	4.86	5.37	6.33	5.74

Table-11: The t-test scores of the psychological well-being of sample groups who felt that the news reflected by the media was consistent with reality and those who felt it was not consistent.

t	P	Sample (N)
2.014103	0.032299	55

Since $p < 0.05$, therefore there is significant difference shown between psychological well-being of sample groups who felt that the news reflected by the media was consistent with reality and those who felt it was not consistent.

During the second wave 13% sample reported to have had decreased their news exposure and 29% reported to have had increased their news exposure, while others did not report such changes. The people who reported to have decreased news exposure showed slightly higher psychological well-being than those who reported to have had increased their news exposure, while those who didn't reported any changes in news exposure had the least mean psychological well-being. Supported by Garfin, D. R., Silver, R. C., & Holman, E. A. (2020) study wherein, Moreover, repeated media exposure to crisis-related information elevates anxiety and

stress responses among people. The stress symptoms increased with the amount of time spent receiving updates (Liu, J. C., & Tong, E. M. (2020)). Personal Growth, Positive relations, Self-acceptance and Purpose of life was slightly more in people who reduced exposure to news and the least in those who didn't report any changes in news exposure. Environmental mastery was the highest in people who increased the time exposed to news and the least who reduced the exposure, Whereas the Autonomy was slightly more in people who reduced the news exposure and least in those who didn't report any changes in news exposure.

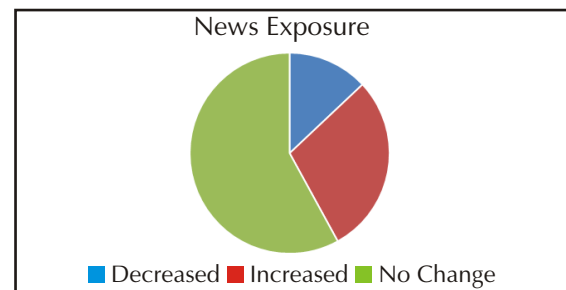


Figure 1: Patterns of changes in news exposure time during the second wave.

Table-12: The mean scores and standard deviation of the psychological well-being of the sample who felt that the news reflected by the media was problem-oriented, neutral and solution-oriented

Average of Problem Oriented	Average of Neutral	Average of Solution Oriented	SD of Problem Oriented	SD of Neutral	SD of Solution Oriented
168.9565217	166.25	162.5833333	22.48530482	17.54055451	24.05470407

Table-13: The mean scores and standard deviation of the sample groups who felt that the news reflected by the media was problem oriented, neutral and solution oriented, on the 6 dimensions of psychological well-being

	Autonomy			Environmental mastery			Personal Growth			Positive Relations			Purpose in life			Self-acceptance		
	Problem Oriented	Neutral	Solution Oriented	Problem Oriented	Neutral	Solution Oriented	Problem Oriented	Neutral	Solution Oriented	Problem Oriented	Neutral	Solution Oriented	Problem Oriented	Neutral	Solution Oriented	Problem Oriented	Neutral	Solution Oriented
MEAN	27.52	28.05	26.27	25.74	24.15	24.63	30.22	29.55	29.82	28.52	28.3	26.82	30.43	27.5	27.64	25.22	26.75	26.55
SD	4.89	5.4	5.06	4.32	3.96	2.58	3.93	4.19	4.05	6.4	5.64	3.51	5.09	4.31	5.87	5.52	6.01	7.47

Table-14: The mean scores and standard deviation of the psychological well-being of sample groups who reported no difference in the time of exposure to news and those who reported an increase or decrease

Average of Decreased	Average of No Change	Average of Increased	SD of Decreased	SD of No Change	SD of Increased
175	163.03125	170	22.45736702	20.79622232	20.22869249

Table-15: The mean scores and standard deviation of the sample groups who reported no difference in the time of exposure to news and those who reported an increase or decrease, on the 6 dimensions of psychological well-being

	Autonomy			Environmental mastery			Personal Growth			Positive Relations			Purpose in life			Self-acceptance		
	less	neu-tral	more	less	neu-tral	more	less	neu-tral	more	less	neu-tral	more	less	neu-tral	more	less	neu-tral	more
M	28.167	27.4	27.563	24.167	24.4	26.063	30.5	29.8	30.375	31	26.9	28.938	30.333	28.3	28.688	27.5	24.8	27.125
S	6.55	4.66	5.66	2.93	3.25	5.16	4.93	4.02	4.06	5.69	5.23	6.23	7.53	4.91	4.27	5.24	6.12	6.22

Table-16: The mean scores and standard deviation of the psychological well-being of sample groups depending upon their animal interaction.

Average of Has a pet/more or equal animal interaction	Average of No pet/less animal interaction	SD of Has a pet/more or equal animal interaction	SD of No pet/less animal interaction
162.9565217	169.1875	21.67629258	20.32071484

Table-17: The mean scores and standard deviation of the sample groups depending upon their animal interaction, on the 6 dimensions of psychological well-being

	Autonomy		Environmental mastery		Personal Growth		Positive Relations		Purpose in life		Self-acceptance	
	Has a pet / more or equal animal interaction	No pet / less animal interaction	Has a pet / more or equal animal interaction	No pet / less animal interaction	Has a pet / more or equal animal interaction	No pet / less animal interaction	Has a pet / more or equal animal interaction	No pet / less animal interaction	Has a pet / more or equal animal interaction	No pet / less animal interaction	Has a pet / more or equal animal interaction	No pet / less animal interaction
MEAN	27.13	27.81	25.96	24.13	29.19	30.06	26.83	28.78	27.52	29.69	24.61	26.88
SD	5.39	4.84	3.78	3.8	3.99	4.13	6.19	5.1	4.38	5.37	6.35	5.78

Table-18: The t-test scores of the psychological well-being of sample groups depending upon their animal interaction

t	P	Sample (N)
2.012896	0.008611	55

Since $p < 0.05$, therefore there is significant difference shown between psychological well-being of sample groups depending upon their animal interaction.

The major population (40%) was exposed to news majorly through Social media platforms

(Instagram, Facebook, WhatsApp etc). 22% were informed through local tv news channels, 16% through news applications, 13% through newspapers, 5% through YouTube news channels, 2% through international news and 2% through other mediums.

Interpretation and Discussion

The present study tried to understand the psychological well-being of the individuals specifically during the second wave of covid-19 in Delhi/NCR. The study attempted to understand effect of some variables that might have had caused differences in the psychological well-being of individuals namely, covid infection (self/family), gender difference, vaccination status, media influences and animal intervention.

To do the assessment Ryff's Psychological Well-Being Scale was used to measure 6 dimensions of psychological well-being and happiness namely autonomy, environmental mastery, personal growth, positive relations with others, purpose in life and self-acceptance (Ryff et al., 2007; adapted from Ryff, 1989).

With the extent to which the disease posed risks to people's life, contact of the disease by self or by any member of the family makes it understandable for comparatively poorer psychological well-being than people who were not in contact with the disease. The second wave was the second-worst atrocity faced by the country after partition. This pandemic, apart from the obvious morbidity and mortality, resulted in psychological distress and adverse mental consequences to the population, who are in a constant state of lockdown and quarantine for the last few months (Brooks SK, Webster RK, Smith LE, Woodland L, Wessely S, Greenberg N, et al. (2020)). The medical systems in many cities were overwhelmed during the first wave itself. Though the first and second waves saw a massive improvement in the health care system still the crisis left many infected and their families to help their selves during the time of the disaster. Conversion of maidans (fields) and gurdwaras (Sikh religious institutions) and other places into makeshift wards and hubs for accessing oxygen

(Neha Faruqui, VR Raman, Jeevika Shiv, Sonam Chaturvedi, MaitreeMuzumdar, Vandana Prasad, 2021), having first-hand experience of the deliberating situation of the healthcare system could have been a major influencing factor in the statistically observed difference in psychological well-being between the two groups. Supported by the study Anglim, J., & Horwood, S. (2020) stated Well-being was lower in the Covid sample. Autonomy, Positive Relations and Self-acceptance have been reported to be slightly high in people not infected by covid (self/family) than that of people infected by covid (self/family). The decrease in positive relations and autonomy for the infected sample could be due to the covid disease posing quarantine to avoid the spread of the disease limiting social movement and thereby social interactions. There was some evidence of reduced levels of PWB, particularly about autonomy and positive relations, which is consistent with the reduced freedoms and scope for social interaction during lockdown (Cantarero et al., 2020). While Environmental mastery, Personal growth and Purpose in life seems to have been reported to be slightly high in people infected by covid (self/family) than not infected by covid (self/family). The infected population (self/family) has experience of dealing with the disaster which might have inculcated a sense of mastery and competence in managing the environment and controlling a complex array

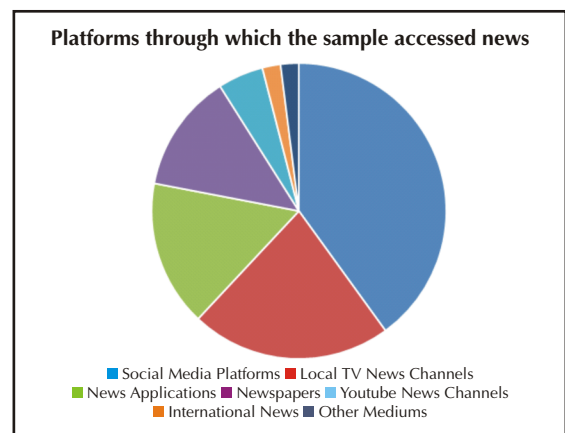


Figure 2: Platforms through which the sample accessed news

of external activities that might have been involved in fighting the infectious disease. Traumatic experiences often raise spiritual questions regarding meaning and purpose, justice and fairness, the power of good over evil, and the nature of God and man (Jordan, 1995). Higher purpose in life served as a protective factor and resulted in lower rates of vicarious trauma (Singer, J., Cummings, C., Moody, S. A., & Benuto, L. T. (2020)).

The gender differences in psychological well-being have been observed with males reported to have slightly more mean psychological well-being than females. Supported by study Visani, D., Albieri, E., Offidani, E., Ottolini, F., Tomba, E., & Ruini, C. (2011) indicating that females show lower psychological well-being levels compared to males. The pandemic had a more pronounced negative effect on female students' academics, social isolation, stress and mental health compared to male counterparts. Prowse, R., Sherratt, F., Abizaid, A., Gabrys, R. L., Hellemans, K. G., Patterson, Z. R., & McQuaid, R. J. (2021). This gender difference could be subject to patriarchal societal norms and stereotypical attitudes towards the female gender. Autonomy, Environmental mastery, Purpose in life and Self-acceptance have been reported to be slightly more in males. While Personal growth and Positive relations have been reported to be slightly more in females. Supported by Matud, M. P., López-Curbelo, M., & Fortes, D. (2019) Men scored higher than women in self-acceptance and autonomy, and women scored higher than men in personal growth and positive relations with others.

The mean of psychological well-being of people who were vaccinated or partially vaccinated has been slightly more than that of people who were not vaccinated or could not be vaccinated with any of the covid vaccines. Supported by Bagues, M., & Dimitrova, V. (2021). Israeli doctors reported slightly higher self-acceptance after vaccinations (78% vs. 75%) (Lin, C., Tu, P., & Beitsch, L. M. (2020)). The insignificant differences in hypothesis 1, 2 and 3 were observed which could be due to small sample

sizes (N=55) or social desirability. It could also be due to the non-probability methods of sampling used Supported by Yeager, D. S., Krosnick, J. A., Chang, L., Javitz, H. S., Levendusky, M. S., Simpson, A., & Wang, R. (2011).

The mean of psychological well-being of people who felt that the news reflected by media was inconsistent with the reality reported to have slightly more mean psychological well-being than those who felt the news reflected by the media was consistent with the reality. Supported by significant differences ($p < 0.05$) indicated in the t-test ($t = 2.014103$ and $p = 0.032299$) (Table - 11). The condition represented in the media was deliberating in most of the news channels, the Lack of trust and hope with higher authorities could have been the reason for lower psychological well-being for people who felt the news reflected by the media was consistent with the reality. Supported by the study, The respondents (N = 1060) who are more likely to be distressed, are those who have a lack of trust in government (Anand, V., Verma, L., Aggarwal, A., Nanjundappa, P., & Rai, H. (2021)). Another reason supporting the data could be people who felt that media was inconsistent with reality, felt to have a better sense of environmental mastery, influencing their psychological well-being. While there could be other variables influencing this data. Autonomy, Environmental mastery, Purpose in life and Personal growth have been reported to be slightly more in people who felt that the news reflected by media was inconsistent with the reality. Positive relations and Self-acceptance have been reported to be slightly more in those people who felt the news reflected by the media was consistent with the reality.

The mean of psychological well-being of people who felt that the news reflected by media was highest when they felt the news was problem-oriented than neutral and solution-oriented. Environmental mastery, Personal growth and Purpose of life was slightly more in Problem-Oriented and similar in Neutral and Solution-Oriented content. Autonomy was slightly more in neutral content than problem-oriented than

solution-oriented. Positive relations were slightly less in people who watched media content that was solution-oriented and was similar in neutral or problem-oriented. Self-acceptance was slightly less in people who watched media content that was problem-oriented, problem-oriented and was similar in neutral or solution-oriented content.

During the second wave, 13% sample reported having had decreased their news exposure and 29% reported having had increased their news exposure, while others did not report such changes. The people who reported to have decreased news exposure showed slightly higher psychological well-being than those who reported having had increased their news exposure, while those who didn't report any changes in news exposure had the least mean psychological well-being. Supported by Garfin, D. R., Silver, R. C., & Holman, E. A. (2020).study wherein,Moreover, repeated media exposure to crisis-related information elevates anxiety and stress responses among people. The stress symptoms increased with the amount of time spent receiving updates (Liu, J. C., & Tong, E. M. (2020)).Personal Growth, Positive relations, Self-acceptance and Purpose of life was slightly more in people who reduced exposure to news and the least in those who didn't report any changes in news exposure. Environmental mastery was the highest in people who increased the time exposed to news and the least who reduced the exposure, Whereas the Autonomy was slightly more in people who reduced the news exposure and least in those who didn't report any changes in news exposure.

The major population (40%) was exposed to news majorly through Social media platforms (Instagram, Facebook, WhatsApp etc). 22% were informed through local tv news channels, 16% through news applications, 13% through newspapers, 5% through YouTube news channels, 2% through international news and 2% through other mediums. Researchers have found a significant positive statistical correlation between self-reported social media use and the spread of panic related to COVID-19

($R=.8701$). During the lockdown, people are using social media platforms to gain information about COVID-19. The nature of the impact of social media panic among people varies depending on an individual's gender, age, and level of education (Ahmad, A. R., & Murad, H. R. (2020)).

People who reported having a pet or increased or average interaction with stray animals reported having slighter less psychological well-being compared to the people who reported having a pet or less interaction with stray animals. Supported by significant differences ($p<0.05$) indicated in the t-test ($t = 2.012896$ and $p = 0.008611$) (Table - 18). This could be due to perceived increases in chances of being infected by the disease. People who reported to do not having a pet or decreased interaction with stray animals slightly more Autonomy, Personal Growth, Positive relations, Self – acceptance and Purpose of life, whereas reported to have slightly lower Environmental mastery. Herzog, H. (2011) states that it is now widely believed that pets enhance their owners' health, sense of psychological well-being, and longevity. But while some researchers have reported that positive effects accrue from interacting with animals, others have found that the health and happiness of pet owners are no better, and in some cases worse, than that of non-pet owners. A study argues effects of pets on people have produced conflicting results and argue that the existence of a generalized “pet effect” on human mental and physical health is at present not a fact but an unsubstantiated hypothesis. This variability could be accounted for the 2 complex beings involved in this dynamic relationship the human and the animal. Ratschen, E., Shoesmith, E., Shahab, L., Silva, K., Kale, D., Toner, P., ... & Mills, D. S. (2020). Well-being could also have been influenced by the practical concerns reported about taking care of animals during the lockdown.

Limitations

The study included a small sample. The sample included people who were/are living in

Delhi/NCR. Ryff scale is that it relies on self-reported assessments individuals may respond in ways that are socially desirable rather than reveal their actual response to each statement. The data was also collected through purposive sampling which limits the representation of the entire population. The analysis could have also been done based on demographics apart from the ones used in the study. The study also lacks a better gender-wise sample. The insignificant differences in some hypothesis could be a resultant of small size.

Future Implications

A larger sample could be used. A qualitative study in the context could provide in-depth knowledge of the area of interest. Other variables could also be explored. Different statistical techniques could be used. A different research design can be incorporated, the sample size can also be expanded to include a rich representation of the population, any other probability sampling method can also be used to meet similar objectives.

Conclusion

The mean of psychological well-being of people not infected by covid (self/family) has reported to be slightly more than that of people infected by covid (self/family). The gender differences in psychological well-being have been observed with males reported to have slightly more mean psychological well-being than females. The mean of psychological well-being of people who were vaccinated or partially vaccinated has been reported to be slightly more than that of people who were not vaccinated or could not be vaccinated with any of the covid vaccines. The mean of psychological well-being of people who felt that the news reflected by media was inconsistent with the reality reported having slightly more mean psychological well-being than those who felt the news reflected by the media was consistent with the reality. The mean of psychological well-being of people who felt that the news reflected by media was highest when they felt the news was problem-oriented

than neutral and then solution-oriented. The people who reported to have decreased news exposure showed slightly higher psychological well-being than those who reported to have had increased their news exposure, while those who didn't reported any changes in news exposure had the least mean psychological well-being. The major population (40%) was exposed to news majorly through Social media platforms (Instagram, Facebook, WhatsApp etc). People who reported having a pet or increased or average interaction with stray animals reported having slighter less psychological well-being than people who reported to do not having a pet or decreased interaction with stray animals.

References

1. Ahmad, A. R., & Murad, H. R. (2020). The impact of social media on panic during the COVID-19 pandemic in Iraqi Kurdistan: online questionnaire study. *Journal of medical Internet research*, 22(5), e19556.
2. Akulwar-Tajane, I., Parmar, K. K., Naik, P. H., & Shah, A. V. (2020). Rethinking screen time during COVID-19: impact on psychological well-being in physiotherapy students. *Int J Clin Exp Med Res*, 4, 201-16.
3. Anglim, J., & Horwood, S. (2020). Effect of the COVID-19 Pandemic and Big Five Personality on Subjective and Psychological Well-Being. *Social Psychological and Personality Science*, 1948550620983047.
4. Anand, V., Verma, L., Aggarwal, A., Nanjundappa, P., & Rai, H. (2021). This study confirms the prevalence of high distress experienced by Indians at the time of COVID-19.
5. Bagues, M., & Dimitrova, V. (2021). The psychological gains from COVID-19 vaccination: who benefits the most?.
6. Bhattacharya, A., (2021, July 14). India's Covid toll in 2nd wave tops 2.5 lakh, 1 lakh more deaths than in 1st wave. *The Times of India*. <https://timesofindia.indiatimes.com/india/covid-toll-in-second-wave-tops-2-5-lakh/articleshow/84393269.cms>
7. Brooks, S. K., Webster, R. K., Smith, L. E.,

- Woodland, L., Wessely, S., Greenberg, N., & Rubin, G. J. (2020). The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *The Lancet*, 395(10227), 912-920.
8. Chen, X., Gao, H., Zou, Y., & Lin, F. (2020). Changes in psychological wellbeing, attitude and information-seeking behaviour among people at the epicentre of the COVID-19 pandemic: a panel survey of residents in Hubei province, China. *Epidemiology & Infection*, 148.
 9. Dodd, R. H., Dadaczynski, K., Okan, O., McCaffery, K. J., & Pickles, K. (2021). Psychological wellbeing and academic experience of University students in Australia during COVID-19.
 10. Fallon, N., Brown, C., Twiddy, H., Brian, E., Frank, B., Nurmikko, T., & Stancak, A. (2021). Adverse effects of COVID-19-related lockdown on pain, physical activity and psychological well-being in people with chronic pain. *British Journal of Pain*, 15(3), 357-368.
 11. Fujita, F., & Diener, E. (2005). Life satisfaction set point: stability and change. *Journal of personality and social psychology*, 88(1), 158.
 12. Lin, C., Tu, P., & Beitsch, L. M. (2020). Confidence and Receptivity for COVID-19 Vaccines: A Rapid Systematic Review. *Vaccines* 2021, 9, 16.
 13. Liu, J. C., & Tong, E. M. (2020). COVID-19 news exposure as a modifiable risk factor of psychological symptoms: Can an official WhatsApp channel help. Preprint[Internet]. *Journal of Medical Internet Research*.
 14. Luhmann, M., Hofmann, W., Eid, M., & Lucas, R. E. (2012). Subjective well-being and adaptation to life events: a meta-analysis. *Journal of personality and social psychology*, 102(3), 592.
 15. Gardner, P. J., & Moallef, P. (2015). Psychological impact on SARS survivors: Critical review of the English language literature. *Canadian Psychology/Psychologiecanadienne*, 56(1), 123.
 16. Garfin, D. R., Silver, R. C., & Holman, E. A. (2020). The novel coronavirus (COVID-2019) outbreak: Amplification of public health consequences by media exposure. *Health psychology*, 39(5), 355.
 17. Guo, Q., Zheng, Y., Shi, J., Wang, J., Li, G., Li, C., & Yang, Z. (2020). Immediate psychological distress in quarantined patients with COVID-19 and its association with peripheral inflammation: a mixed-method study. *Brain, behavior, immunity*, 88, 17-27.
 18. Herzog, H. (2011). The impact of pets on human health and psychological well-being: fact, fiction, or hypothesis?. *Current directions in psychological science*, 20(4), 236-239.
 19. Mashal, M., Yasir, S., Bhagat, S., (2021, June 4). At India's Funeral Pyres, Covid Sundered the Rites of Grief. *The New York Times*. <https://www.nytimes.com/2021/05/08/world/asia/india-covid-deaths-crematories.html>
 20. Matud, M. P., López-Curbelo, M., & Fortes, D. (2019). Gender and psychological well-being. *International journal of environmental research and public health*, 16(19), 3531.
 21. Mazumdar, K., Sen, I., Gupta, P., & Parekh, S. (2021). Psychological well-being of Indian mothers during the COVID-19 pandemic. *International Perspectives in Psychology*.
 22. Menzies, R. E., Neimeyer, R. A., & Menzies, R. G. (2020). Death anxiety, loss, and grief in the time of COVID-19. *Behaviour Change*, 37(3), 111-115.
 23. Mordani, S., (2021, July 21). 2nd Covid wave was India's worst tragedy since Partition, saw up to 49 lakh excess deaths: Report. *India today*. <https://www.indiatoday.in/coronavirus-outbreak/story/2nd-covid-wave-was-india-worst-tragedy-since-partition-saw-up-to-49-lakh-excess-deaths-1830894-2021-07-21>
 24. Prowse, R., Sherratt, F., Abizaid, A., Gabrys, R. L., Hellemans, K. G., Patterson, Z. R., & McQuaid, R. J. (2021). Coping with the COVID-19 pandemic: examining gender differences in stress and mental health among university students. *Frontiers in psychiatry*, 12, 439.

25. Ratschen, E., Shoesmith, E., Shahab, L., Silva, K., Kale, D., Toner, P., ... & Mills, D. S. (2020). Human-animal relationships and interactions during the Covid-19 lockdown phase in the UK: Investigating links with mental health and loneliness. *PloS one*, 15(9), e0239397.
26. Rossi, R., Socci, V., Talevi, D., Mensi, S., Niolu, C., Pacitti, F., ... & Di Lorenzo, G. (2020). COVID-19 pandemic and lockdown measures impact on mental health among the general population in Italy. *Frontiers in psychiatry*, 790.
27. Røysamb, E., Nes, R. B., Czajkowski, N. O., & Vassend, O. (2018). Genetics, personality and wellbeing. A twin study of traits, facets and life satisfaction. *Scientific Reports*, 8(1), 1-13.
28. Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of personality and social psychology*, 57(6), 1069.
29. Ryff, C. D., & Keyes, C. L. M. (1995). The structure of psychological well-being revisited. *Journal of personality and social psychology*, 69(4), 719.
30. Satpathy, B., & Ali, E. (2020). A study on the psychological well-being of final year management students during COVID-19 pandemic lockdown in India. *International Journal of Indian Psychology*, 8(2), 1-25.
31. Schimmack, U., & Oishi, S. (2005). The influence of chronically and temporarily accessible information on life satisfaction judgments. *Journal of personality and social psychology*, 89(3), 395.
32. Shi, L., Lu, Z. A., Que, J. Y., Huang, X. L., Liu, L., Ran, M. S., ... & Lu, L. (2020). Prevalence of and risk factors associated with mental health symptoms among the general population in China during the coronavirus disease 2019 pandemic. *JAMA network open*, 3(7), e2014053-e2014053.
33. Singer, J., Cummings, C., Moody, S. A., & Benuto, L. T. (2020). Reducing burnout, vicarious trauma, and secondary traumatic stress through investigating purpose in life in social workers. *Journal of Social Work*, 20(5), 620-638.
34. Tsang, H. W., Scudds, R. J., & Chan, E. Y. Psychosocial impact of SARS. *Emerg Infect Dis.* 2004; 10 (7): 1326–7.
35. Visani, D., Albieri, E., Offidani, E., Ottolini, F., Tomba, E., & Ruini, C. (2011). Gender differences in psychological well-being and distress during adolescence. In *The human pursuit of well-being* (pp. 65-70). Springer, Dordrecht.
36. Weiss, A., Bates, T. C., & Luciano, M. (2008). Happiness is a personal (ity) thing: The genetics of personality and well-being in a representative sample. *Psychological science*, 19(3), 205-210.
37. Yeager, D. S., Krosnick, J. A., Chang, L., Javitz, H. S., Levendusky, M. S., Simpser, A., & Wang, R. (2011). Comparing the accuracy of RDD telephone surveys and internet surveys conducted with probability and non-probability samples. *Public opinion quarterly*, 75(4), 709-747.