

# Impact of COVID -19 on Well-Being in Select Indian Cohorts and Possible Solutions for Improvement - A Cross-Sectional Online Survey

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## ABSTRACT

**Introduction:** The confinement brought about by COVID has not only limited physical activity considerably, but also impacted the mental well-being of populations across the globe. Numerous studies have evidenced the intellectual and emotional benefits of having social connections, especially in going through such hardships. Although technology today helps eliminate physical barriers and improve social connect, the knowledge and access to such technology for all stakeholders is a challenge to overcome. This independent online survey was designed for assessing some of these challenges and exploring potential approaches to improve 'well-being' amongst a cross-section of Indian population.

**Data Collection and Analysis:** Tool employed was a self-developed questionnaire with an online tool for data collection. MS Excel was used for analysing the data.

**Results:** COVID 19 confinement has led to increase in workload especially for women adding to stress and impacting wellbeing. Exercise is the most common activity being performed to cope with stress. The time spent connecting with family/friends through telecommunication or virtually has increased. People are experiencing lack of companionship, missing getting gifts, celebrating birthdays/special occasions. The younger age groups 25 years and below are experiencing this more. An online gratitude and birthday celebrations activity to improve well-being amongst adolescent children showed positive results. 80% children said that they would volunteer to do such activity for their family or friends.

**Conclusion:** Identifying small ways to be joyful can help the young and old survive tough times. Confinement is not a deterrent to exercise and should be consciously promoted across age groups.

## Introduction

The 2019 coronavirus (COVID-19) pandemic, caused by SARS-CoV-2, has expanded from Wuhan, the capital city of Hubei Province in China to a growing number of countries [1] Indian population was firstly ordered to stay at home for 21 days that was later extended,

to halt the spread of coronavirus. The confinement considerably limits physical activity, which could increase the emotional imbalance. Stipulated severe restrictions on social contact, greatly reduced access to services, closedown of educational institutes, loss of employment, coupled with substantial concerns about the

future is reported to impact the mental & physical well-being of the population across the globe [2-4]. Studies show that friendships and social connections provide intellectual stimulation and emotional support through hardships. Stress and isolation can be particularly challenging, especially in times of social distancing. People who provide you with a sense of belonging, love or value can be buffers against stress [5-7]. Physical distancing and loss of social support during the COVID-19 pandemic may result in situations where population at large experiences greater emotional distress and poorer health outcomes [8]. Factors associated with adverse health outcomes, including inflammatory biomarkers, impaired immune function, and even mortality, are reported to be linked to social relationships of poor quality, a low level of involvement, and a low quantity of social connections [9-11]. To maintain social connections digital technology is being leveraged so that people can connect socially with their loved ones and others; this could reduce loneliness.

Nonetheless, some key issues such as access to and knowledge of digital technology tools must be considered [4,12]. Adolescents who are socially isolated during COVID-19 may experience greater feelings of loneliness and may be at increased risk of mental health problems since peer relations are of higher value during this developmental phase [13-15]. It becomes critical to identify coping strategies, small ways to bring joy every day to promote wellbeing amongst population. A large body of evidence indicates that there is an association between gratitude and a sense of overall well-being. Gratitude is the appreciation of what is valuable and meaningful to oneself; it is a general state of thankfulness and/or appreciation [16]. Froh et al. conducted a study in which 221 adolescents were assigned to either a gratitude exercise (i.e., counting one's blessings), a hassles condition, or a control condition. As predicted, the gratitude condition was associated with greater life satisfaction. The authors concluded from their experience that counting blessings seems to be an effective intervention for enhancing well-being in adolescents [17]. Hence this survey focused on assessing the well-being, extent of loneliness, need of having companionship, celebrations, and view on possible approaches to improve well-being amongst a cross-section of urban Indian population across age groups. In addition, impact of a gratitude and birthday celebration intervention on an online class of adolescent school children and teachers in Delhi NCR was also studied to make recommendations on improving well-being. Given this group is one of the most vulnerable group which can get impacted by poor peer interactions both in quantity and quality therefore researchers felt it was ideal to evaluate the effectiveness of these simple interventions in this cohort in order to improve wellbeing.

## Methodology

This cross-sectional study was focused on understanding the impact of COVID-19 on the overall well-being of a cross-section of

population representing different age groups, from teenagers to 80-year olds, spread across major tier 1 and tier 2 cities of India. A cross-sectional survey design was decided to assess the impact of COVID-19 on well-being and explore possible approaches for improvement. Questionnaire was a blend of open and close ended questions. Data was collected using an online (anonymous) survey platform (SurveyMonkey) from 6th Aug to 18th Aug 2020, as per Indian Government's recommendations to minimize face-to-face or physical interaction, as citizens continue to isolate themselves at home. Potential respondents were invited through a what's app message or email, which led them to a survey monkey page (designed by Heritage Xperiential Learning School student). The data was collected anonymously, without collecting information that could identify the respondents. Leveraging the principles of snowballing, the link was circulated by the investigators through social media for capturing data from English speaking general population (who have some access to Internet). An effort was made to capture data from adolescent school children in contact with the investigators which enabled in test-piloting gratitude and birthday celebration interventions.

## Statistical Analysis

MS Excel was leveraged for analysing the data. MS Excel was primarily used for frequency distribution analysis. Categorical data were presented as number and percentage. Continuous data were presented as mean. Since not all questions in all the surveys were mandatory to answer, hence the sample numbers differ for different questions, and analysis was done based on the number of participants answering a particular question.

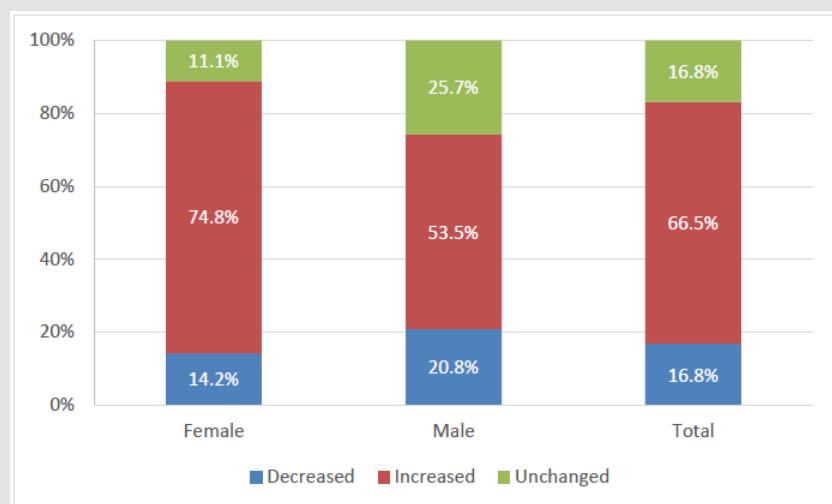
## Results

A sample size of 370 urban Indians (38.92% Males and 61.08% Females) across New Delhi/NCR (52.45%), Mumbai (8.97%), Bangalore (9.24%) and other urban cities (29.35%) completed this survey. The age of the respondents varied from 13 to 80 years; however, majority of the respondents were between 26 to 40 years (31%) and 41 to 50 years (30%). The demographic data collected further revealed that maximum (64.42%) respondents were working, followed by students (18.06%), non- working (10.78%) and retired (6.74%). Majority of the respondents (52.19%) were living in a nuclear family (couple with kid/s), followed by joint family (25.68%), nuclear family (couple without kids) (15.03%), alone (5.46%) and very few with friends (1.64%). Findings suggest that for half of the population i.e., 50%, the time spent connecting with family/friends through telecommunication or virtually during COVID has increased than the pre-COVID period. Only 29% respondents experience no change. 61.0 % respondents reported that on an average they are spending 31mins to more than an hour connecting with family/friends. The average time spent on electronics was reported to be approximately 8 hours with 66% of the respondents, experiencing an increase than the Pre-COVID

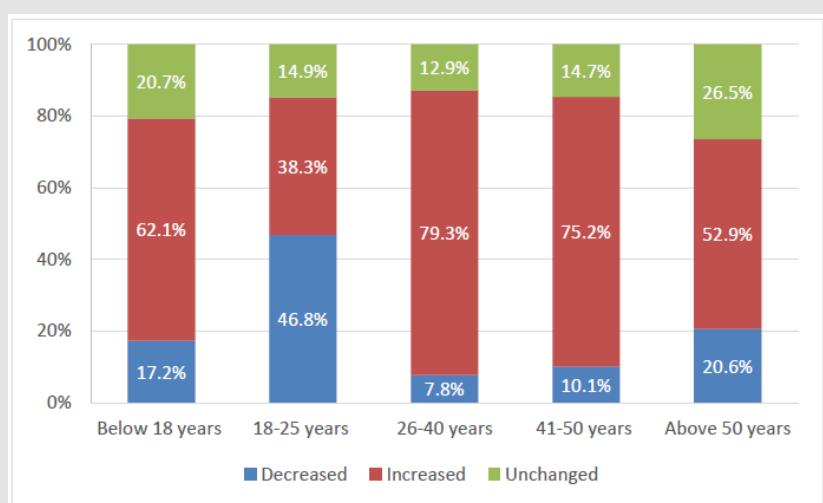
period. The age group of 26-40 years spend the most time on electronics a day; they account for almost 60% of the respondents spending more than 8 hours a day on electronics.

As indicated in (Figure 1) the workload has also increased for a significant percentage of population 66.5%, however it seemed to have decreased for 16.8%. Women are experiencing higher increase in workload than men with 74.8% of all women reporting an increase in workload as against 53.5% men. People in the age group 26-50 years, (Figure 2) form the majority (70.5%) of those who have experienced an increase in their workload, while those in the 18-25 age group have seen the most decrease in their workload (i.e. 47%). People experience lack of companionship, with 67.7% respondents reporting that they lack companionship for some of the time to often. This is observed to be higher among the younger age groups 25 years and below. Exercise is the most common activity being performed by 40.54% respondents to cope with stress followed by spiritual activities by 12.7%. A sizeable percentage i.e., 41.0 % of respondents report that they avoid discussing their fears

and concerns however a higher percentage of people 58.87% do not avoid sharing their fears and concerns. A large percentage 57.8 % of people do not fear judgement of others but there is also a sizeable percentage 42.2% who are concerned about being judged by others. Majority of the respondents 51.09% are most comfortable sharing their feeling with friends. A vast majority of people 60.92% miss getting gifts, celebrating birthdays/special occasions due to COVID. The survey respondents 79.84% felt that their mental health is either the same or has become worse when compared to pre-COVID period. When asked about the physical health 69.44% felt that it is either the same or has become worse post COVID. Key reasons highlighted by respondents were lack of physical exercise or poorer quality of exercise at home, and lack of social interaction which is affecting mental health. Working professionals also fear instability and insecurity for their jobs, and increased workload, which is affecting them mentally. Several people are also eating more, and with reduced physical activity, experiencing problems like weight gain.



**Figure 1:** Change in Workload during COVID 19 vs Pre COVID (Gender based)



**Figure 2:** Change in Workload during COVID 19 vs Pre COVID (Age based).

On the other hand, some people have also found their physical and/or mental health to have improved during this time, because they have more time to exercise, they are practicing a healthier diet regime (and not eating outside food), have more time to spend with family or invest on themselves (through activities like reading, painting, music, etc.). Given the findings that people are missing birthdays/special occasions & gratitude being called out as an intervention which could help in improving well-being two interventions were studied. One birthday videos with messages from friends and a gratitude video for teachers to acknowledge their contribution in enabling learning during difficult times of COVID was pilot tested amongst adolescent school children of

Grade 8 (Batch Size 30) during online school. Post the sharing session an online survey was conducted and 100% of the children felt good/happy being a part of Gratitude Note Activity. 92% felt that giving gratitude made them feel good about themselves. 92% liked the idea of making Birthday video and felt if a video with wishes from their friends is made for their birthday it will make them feel extremely happy. When asked if a gratitude video or birthday wishes video is made how happy the person getting it would feel, 96% felt that the person getting it would feel extremely happy. 80% said that they would volunteer to do such activity for their family or friends (Figure 3).



**Figure 3:** Frequency of missing companionship (Age based).

## Discussion

The present study, to our knowledge, is the first of its kind which not only assesses the change in mental and physical well-being pre and during COVID 19 amongst select Urban Indian cohorts but also assesses the effectiveness of simple solutions like online gratitude and birthday celebrations to improve well-being amongst adolescent children. Overall, the study findings indicate that during COVID-19, telecommunications & digital technologies have enabled social connections with a half of the population (50%) of the respondents spending more time than pre-COVID, connecting with family/friends through telecommunication or virtually. Workload has increased with 66.4% respondents experiencing an increase. As predicted during the lockdown due to the closure of schools and offices, all family members could be staying indoors, leading to an increase in household burden of the childcare, cooking, cleaning, and other household management along with professional commitments especially for women. These added responsibilities, combined with the lack of time for themselves, could have increased their stress & impacted well-being. 79.84% respondents have reported that their mental health & 69.44% have reported that their physical health has either remained the same or has become

worse when compared to pre-COVID period. Constant support for mental and psychosocial well-being should be a priority across workplace, educational institutions and within families. It helps in reducing the psychological distress and promotes adaptive coping strategies.

Exercise is the most common activity being performed by 40.54% respondents to cope with stress followed by spiritual activities by 12.7%. A study conducted to assess the impact of COVID-19 on Physical Activity Behaviour and Well-Being amongst Canadians reported that participants who were more physically active had greater mental health scores [18]. This suggests that health-promoting measures directed towards increasing exercise/physical activity levels in inactive individuals may be essential to improving well-being. A narrative review on physical activity recommendations during COVID-19 concluded that physical activity is widely recommended during the confinement caused by COVID-19, mainly through the performance of aerobic, strength, flexibility, and balance exercises [19]. Given a considerable number of respondents in this cohort are exercising it adds to the evidence that confinement is not a deterrent to exercise and should be consciously promoted for a larger population across age groups.

Finding the time to take up new hobbies, engaging children in nurturing activities like having a kitchen garden, painting, cooking could be other beneficial activities to deal with stress. Good social relations and a feeling of loving and being loved in mutual relation(s), adds to one's self-esteem, self-acceptance, usefulness, and belief in one's own abilities. A meta-analysis of longitudinal studies on the prospective effect of social relationships on self-esteem (48 samples including 46,231 participants) and the prospective effect of self-esteem on social relationships (35 samples including 21,995 participants) support the assumptions of classic and contemporary theories.

The findings suggest that the link between people's social relationships and their level of self-esteem is truly reciprocal in all developmental stages across the life span, reflecting a positive feedback loop on the influence of social relationships on self-esteem and on the consequences of self-esteem for the relationship domain [20].

In this study a sizeable percentage i.e., 41.0 % of respondents report that they avoid discussing their fears and concerns and 42.2 % are concerned about being judged by others. Majority of the respondents 51.09% are most comfortable sharing their feeling with friends and 67.7% respondents are experiencing lack of companionship for some of the time to often. This is observed to be higher among the younger age groups 25 years and below. A vast majority of people 60.92% miss getting gifts, celebrating birthdays/special occasions due to COVID. Given the situation of confinement with limited to no physical interactions beyond the family set up a conscious effort on appreciating each other, displaying love, encouraging dialogue should be made. A positive self-image is important for well-being and gratitude, appreciation within family/cohabitants, celebrating social events/personal achievements online with friends, peers could provide the required psychological support during pandemic. Adolescence is a special phase in life where there is a decrease in the amount of time spent with family and an increase in the amount of time spent with peers. Social distancing could be a source of higher stress for adolescents.

A decrease in quantity and quality of peer interactions for any reason has been found to lead to intense feelings of loneliness which has been identified as risk factor for mental health disorders specially for adolescent given the high value attached to peer friendships and romantic relationships during this developmental period [9]. In times of adversity and uncertainty such as a pandemic, people feel powerless. People can gain the most from a grateful perspective on life during a crisis as they realize that everything they have and counted on, may be taken away, it becomes hard to take it all for granted. In a study by Jans-Beken and Wong (2019) the results showed that gratitude for good and adverse aspects predicted better well-being in people with symptoms of PTSD,

while gratitude for only good aspects was not. This illustrates that it is necessary for good mental health to accept and transform frustration, powerlessness, and hurt that one experiences into growth and thriving [16]. Finding small ways to be joyful can help the young and old survive tough times. Adolescents may need more guidance to start the process, but toddlers do this naturally. In addition instilling a sense of gratitude can help adolescent pay attention to what is positive in their life, instead of becoming overwhelmed by negatives. Hence both the interventions one birthday video with messages from friends and a gratitude video for teachers to acknowledge their contribution in enabling learning during difficult times amongst adolescent school children of Grade 8 (Batch Size 30) during online school had high positive association with children. 100% of the children felt good/happy being a part of Gratitude Note Activity. 92% liked the idea of making Birthday video and felt if a video with wishes from their friends is made for their birthday it will make them feel extremely happy. 80% also felt that they would volunteer to do such activity for their family or friends. This study clearly highlights that this time can be leveraged for families, communities, workplaces, educational institutions to pause, reflect, prioritize and enjoy the simple things to promote wellbeing.

## Conclusion

The result of this study highlights the importance of identifying simple coping strategies to promote wellbeing during challenging times of COVID pandemic. Given the significant increase in workload especially for women, consciously engaging in activities that bring joy could be beneficial. Displaying gratitude towards teachers through video notes and celebrating birthday/special occasions online with video messages from friends led to feelings of extreme happiness and joy amongst adolescent school children. Similar strategies could be adopted at workplaces, academic institutions and families to deal with the feelings of missing companionship and celebrations. Confinement is not a deterrent to exercise and should be consciously promoted across age groups.

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## Conflict of Interest

No conflict of interest.

## Authors Contribution

1. Jiya Jaspal – Principal investigator of the study.
2. Manjari Chandra – Provided guidance on assessment of Physical wellbeing parameters.

3. Dr Ashima Puri - Provided guidance on assessment of Mental wellbeing parameters.
4. Joel Thomas – Supported in data analysis.
5. Vidhi Sharma- Supported in data analysis.

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