

Research Paper

A Mixed-method Study assessing the Impact of COVID-19 on the Psychological Well-being of Adolescents from Lower-income Households in Delhi NCR

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ABSTRACT

The COVID-19 pandemic brought with it several psychological challenges. There exists limited knowledge about the impact of these challenges within an India specific context with a focus on the adolescent population. This quasi-experimental quantitative and embedded qualitative study explores the effect of the pandemic on the levels of mental disorder symptom clusters and post-traumatic growth in adolescents from lower-income households in Delhi NCR. It aims to fill the existing gap using DASS 21 and PTGI and looking into the associations between mental health and COVID-19, the impact of COVID-19 on finances, social functioning, social media use and socio-demographic factors. Results found after the correlation analysis reflected that the association between the scores received for DASS 21 and PTGI suggest a low Positive Correlation. This area of work, specifically the correlation between traumatic events and Post Traumatic Growth remains under-researched. The current study supports by highlighting the positive coping mechanisms adopted by this population.

Keywords: COVID-19, post-traumatic growth, adolescents, lower-income households

The pandemic has stunted the most critical point of emotional and cognitive development for adolescents. The COVID-19 pandemic has left adolescents, especially those from lower income households extremely vulnerable. Efforts to curb transmission have exacerbated pre-existing socio-economic hindrances and yielded three vulnerable conditions - Quarantine, Financial Instability, and Loss of Caregiver (Liu et al., 2020). Hence, it becomes crucial to explore the impact of the pandemic on this specific group of the population.

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Impact on overall Psychological Outcomes for children during COVID-19

Child psychological well-being worsened after the restrictions were put in place in response to the COVID-19 pandemic. The COVID-19 crisis has impacted the psychological well-being of children through mechanisms like parental income loss, caregiving burden, and the impact of the COVID-19 illness (Gassman-Pines, 2020). Children reported an increasing frequency of uncooperative behaviors and worries leading to significant emotional and behavioral changes. Additionally, children subjected to the COVID-19 pandemic and home restrictions were more likely to struggle with acute stress disorder, adjustment disorder and grief and reported four times higher scores of PTSD compared to those who were not quarantined (Imran, 2020). Further, elevated levels of anxiety, distress, and depression among quarantined individuals were also reported. While the impact on psychological outcomes, specifically for children, was high, other sociocultural factors also played a key role in worsening this impact.

Socioeconomic factors impacting mental health of children

Studies have found that low socio-economic status is a risk factor for mental health (Reiss et al., 2019). Children dealing with loss and separation during COVID-19 are susceptible to increased psychological distress in the long term as compared to the other conditions. The experience predisposes an individual to the development of mood disorders, psychosis, and suicidal ideation (Liu et al., 2020). In the child, feelings of frustration and helplessness may manifest as anxiety, depression, and suicide (Jiao et al., 2020; Petito et al., 2020; Solantaus et al., 2004). Overall, children become clingy, inattentive, irritable, and worried as a result (Singh et al., 2020). Further, the negative effects of trauma have been studied in detail in existing literature, but little is known about the positive impact of negative events. Distinguishing between these domains is essential as the experience of growth often co-occurs with overpowering negative experiences.

Further, being the second most populated city in India, Delhi has been severely affected by the COVID-19 pandemic. With it being home to embassies and one of the major airports in the country, an increased influx of international travelers, especially students may have contributed to the worsened situation in the capital. The adolescent population in Delhi-NCR is not only diverse but highly under researched. There has always existed a sharp economic divide in India but with the onset of the pandemic, the most vulnerable have receded into the background with little to no resources being available and even less ability to access them.

Specific Impact of COVID-19 Pandemic on Mental Health

An online survey revealed that more than two-fifths of the people are experiencing common mental disorders, due to lockdown and the prevailing COVID-19 pandemic. A total of 1871 responses were collected, of which 1685 (90.05%) responses were analyzed. About two-fifths (38.2%) had anxiety and 10.5% of the participants had depression (Jiao, et al., 2020). Overall, 40.5% of the participants had either anxiety or depression. Moderate level of stress was reported by about three-fourth (74.1%) of the participants and 71.7% reported poor well-being (Jiao, et al., 2020).

Mental Health in Adolescents

A study reviewing advisories on mental health aspects of children and adolescents during the COVID-19 pandemic found that the home confinement of children and adolescents is associated with uncertainty and anxiety which is attributable to disruption in their education, physical activities and opportunities for socialization (Jiao et al., 2020). Some children have

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expressed lower levels of affect for not being able to play outdoors, not meeting friends and not engaging in the in-person school activities (Lee, 2020; Liu et al., 2020; Zhai and Du, 2020). Children were seen to report increased levels of dependence, attention seeking, increased internet usage, anxiety regarding academics, and lower levels of affect, specifically in adolescents.

This could be happening because children and adolescents may be highly exposed to biopsychosocial stressors generated by the pandemic and once population's containment measures to reduce virus spread are required, they could be potentially affected by the disruption in daily life routine as a result of social isolation and their unseasoned ability to conceive and comprehend the short- and long-term consequences of this outbreak (Spinelli et al., 2020; Crescentini et al., 2020). A recent study reported a high prevalence of fear in quarantined children and adolescents during COVID-19 pandemic, a feeling that was mainly associated with financial worries or concerns regarding being exposed to COVID-19 or having infected others (Saurabh and Ranjan, 2020). They further reported a correlation between social isolation during childhood and adolescence and stress responses in the future as well as an increased predisposition to depression.

Mental health in India

Research looking into the implications of the pandemic with regards to an India specific context revealed that major mental health issues reported were stress, anxiety, depression, insomnia, denial, anger and fear. Children and older people, frontline workers, people with existing mental health illnesses were among the vulnerable in this context. There has been an increase in COVID-19 related suicides with social media playing a major role in this context. Cases of COVID-19 related suicide have been reported from Maharashtra, Uttar Pradesh, Assam, Kerala (Cullen et al., 2020). Further, interviews with psychiatrists of leading hospitals in New Delhi explained that depressive patients had started complaining of anxiety related to fear of COVID-19 (Cullen et al., 2020). Some patients expressed the fear of contracting the infection, while others expressed uncertainty related to losing the job or familial disturbances. The experts expressed concerns over rising levels of disharmony and discord in the family atmosphere due to lockdown, lack of social connectivity for patients and withdrawal symptoms for alcohol and substance users who are habituated and dependent.

Mental health in economically weaker sections

According to existing research, internal migrant workers are suffering from high degrees of anxieties and fears due to various concerns in COVID pandemic, and are in need of psychosocial support (G.O.I., 2020). Factors such as a lack of familial support, pre-existing occupational comorbidities, and barriers to access healthcare have all contributed to enhancing the vulnerability of this population.

Several studies have reported a negative psychological impact of quarantine on individuals (Brooks et al., 2020). The lockdown has aggravated the situation for victims of domestic violence according to the statistics released by the National Commission of Women. According to a survey by the Center for Monitoring Indian Economy (Nag, 2020)

Post Traumatic Growth

There exists immense interest in the psychological effects of the COVID-19 pandemic in terms of mental illness, but there exists a dearth in research when it comes to the possible

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positive effects of trauma, specifically in the Indian context. International studies have revealed that PTSD at the first time point was a predictor of PTG at the second time point making it important to study both to understand the potential benefits. Using more maladaptive forms of coping, such as, denial, substance abuse and behavioral disengagement, all mechanisms relating to avoidant coping, were found to positively relate with distress in a sample from the UK, whilst approach coping was found to relate to both PTSD and PTG (Dawson & Golijani-Moghaddam, 2020). Research conducted on a Turkish population (Ikizer et al., 2021) found relationships to be present between PTSD and PTG suggesting cultural differences were important regarding experiences of the COVID-19 pandemic. There is limited research into COVID-19 or the previous SARS outbreak regarding these two variables. Hence, this section will cover research on PTG from the purview of other events like natural disasters.

A study among 2250 adolescent survivors of the 2008 Wenchuan earthquake in China revealed symptoms of post-traumatic stress disorder, depression and anxiety in approximately half of the sample after 6 months of the earthquake (Geonjian, et al., 2009). The disorders also showed high comorbidity. The disorder prevalence was significantly higher than reported in previous studies within the same population. Loss or injury of a family member was correlated with higher risk for the disorders (Fan et al., 2011). Another follow-up research, conducted in 2017, of 548 student survivors of the Wenchuan earthquake in China, examined the prevalence of depressive symptoms at 6, 12 and 18 months after the disaster. The sample reported symptoms of depression surged at the 12-month follow-up and dropped at the next follow up for both male and female students (Chui et al., 2017). Nevertheless, as opposed to the 6-month follow-up, the depressive symptoms reported at 18 months were shown to be more severe. At the 6-month follow-up, depressive symptoms, trauma-related self-injury, suicidal thoughts, and post-traumatic stress disorder symptoms were significant predictors of depression at the 18-month follow-up. (Chui et al., 2017). Another study analyzed the impact of confinement due to the COVID-19 pandemic on positive functioning variables found that emotional distress, and PTG worsened in the second stage of confinement (Tedeschi, et al., 2009). Increases in positive functioning variables (resilience, gratitude, meaning in life) were protective factors associated with the increase in life satisfaction, the decrease in emotional distress, and the increase in posttraumatic growth after strict and forced confinement. The study further reported that women showed significantly lower scores on resilience and positive affect. Moreover, women showed significantly higher scores on compassion and emotional distress (i.e. perceived stress, symptoms of depression and anxiety, and negative affect) while younger individuals reflected higher scores on emotional distress (i.e. symptoms of depression, perceived stress, and negative affect, and lower scores on positive affect) and lower scores on positive functioning variables. Further, while investigating the specific association between mindfulness (using the Kentucky Inventory of Mindfulness Skills) and posttraumatic growth (using the Posttraumatic Growth Inventory) among 183 police officers, it was found that effort toward spiritual growth was positively correlated, and accepting events without judgment was negatively correlated, with posttraumatic growth (Tedeschi, et al., 2009). Thus, it becomes crucial to explore the impact of posttraumatic growth in the context of events like the COVID-19 pandemic.

Current Study

From the existing literature it is evident that the pandemic has resulted in several psychosocial issues with traumatic events having a distinctive effect on the psychological

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well-being of the adolescent characterized by increased incidence of depressive and post traumatic stress disorder symptoms, and anxiety. Studies further indicate that the symptoms of post traumatic stress disorder, depression, prolonged grief, anxiety and post traumatic growth co-exist in either moderate or high severity.

The current study aims to bridge the gap between these findings and the populations that have been ignored. India specific studies looking into this specific population during this time period are far and few in between. Further, India-specific studies on PTG are lacking. Longitudinal studies on post traumatic growth are lacking. There is limited evidence about how changes in positive functioning variables or psychological resources (e.g. gratitude, resilience) could contribute to higher or lower PTG when facing adversity through buffering emotional distress, especially when the stressor is still present. The current study hopes to provide a holistic view with regards to adolescent mental health and the myriad of coping mechanisms in order to enable the development of mental health infrastructure in the future.

Rationale

The existing literature on loss during COVID-19 and how it affects mental health outcomes in the Indian population, especially among adolescents is limited.

- While pre-existing research explores negative outcomes of mental health, the positive outcome in terms of post-traumatic growth is relatively under researched. Hence, the study aims to understand the positive outcomes of post-traumatic growth.
- Moreover, there is a paucity in research that attempts to study the processes that lead the individual to positive and negative mental health outcomes post-loss, hence the study will explore both aspects of mental health outcomes post the pandemic.
- There is a dearth of research that quantitatively examines mental health outcomes and qualitatively analyzes their effect (geographically north of India, and specifically Delhi as it was most affected), hence the study focuses on this specific region of India.
- The adolescent population within Delhi-NCR (North India) is under-researched. The region being one the most affected parts of India during the pandemic and with a unique culture of its own, becomes an important setting. Thus, the focus in this study will be this age group.

Research Design

We aim to adopt a quasi-experimental design, which includes two phases - 1. Quantitative Phase and 2. Qualitative Phase. The quantitative phase was the main study and the qualitative phase was the nested study.

Aim

The impact of loss during COVID-19 on the negative and positive mental health outcomes of adolescents.

METHODOLOGY

Phase I - Quantitative

Objectives:

- To determine the levels of depression, anxiety and stress among lower-income adolescents from Delhi NCR.
- To assess Post traumatic growth among lower-income adolescents from Delhi NCR.

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- To determine whether the levels of depression, anxiety, and stress are significantly different among lower-income adolescents, who have experienced loss and those who haven't.
- To determine whether post traumatic growth is significantly different among individuals who have experienced loss and those who haven't experienced them.

Hypothesis

- H₀₁: There is no difference in levels of depression, anxiety and stress among lower-income adolescents who have experienced loss and those who haven't
- H₀₂: There is no difference in post-traumatic growth among lower-income adolescents who have experienced loss and those who haven't

Study setting: Delhi NCR

Study design: Cross-sectional comparative study

Study participants: Adolescents of ages 14-18 years currently residing in lower income households in Delhi NCR region.

Inclusion criteria

- Students of all genders
- Ages 14-18
- From lower income households
- Ability to read and write either in English or Hindi
- Residents of Delhi NCR region

Sample size: 10-30 participants

Sampling method: Purposive sampling

Outcome variables: Depression, Anxiety, Stress, and Post Traumatic Growth

Operational definition

- **Negative psychological outcome:** Measuring Negative Psychological outcomes in 3 ways - Depression, Anxiety, and Stress as defined in DSM-V.
- **Depression:** According to DSM-V, symptoms of depression include dysphoria, hopelessness, devaluation of life, self-deprecation, lack of interest/involvement, anhedonia, and inertia. Changes in sleep, and appetite are also included under the same. (DASS 21, DSM - 5)
- **Anxiety:** As per American Psychological Association, anxiety manifests as anxious affect, anxious thoughts, recurring intrusive thoughts, situational anxiety or worries and physical changes such as raised heart rate, sweating and trembling.
- **Stress:** Stress seeks to assess levels of chronic non-specific arousal. It includes the evaluation of nervous arousal, difficulty relaxing, and being easily upset/agitated, irritable/over-reactive, and impatient. (DASS21)

Positive psychological outcome

Post-traumatic growth

It is defined as a process and an outcome that stems from cognitive processes aimed at coping with traumatic events. It constitutes new possibilities, development of personal strength, spiritual change, a new appreciation of life and a renewed sense of relating to others as a consequence of a negative event. (Tedeschi & Calhoun, 1996)

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Data Analysis

- SPSS Version 25.0 computer software was used to do the analysis of the data.
- Descriptive statistics was used to calculate the levels of Depression, Anxiety, Stress, and Post Traumatic Growth.
- Independent t-test was used for comparing the mean scores obtained from the groups.
- $P < 0.05$ was considered as significant.

Data collection tools

- **Socio-demographic data**
 - Name
 - Gender - Female/Male/Other Sexual Orientation
 - Pronouns Age Religion Date of birth
 - School (Government/Private-aided/Private) Standard
 - Number of children in the family Birth order
 - Mother - education/occupation Father - education/occupation Monthly household income Place of origin
- **Revised Kuppaswamy's Socio-Economic-Status Scale with real-time update (Sharma, 2017):** The scale assesses the socio-economic-status of an urban family and takes into consideration three parameters - education, occupation, and income of the family. The income of the family is a dynamic variable, and is assessed using the Consumer Price Index (CPI-IW), with the base year as 2016.
- **DASS 21 (Lovibond & Lovibond, 1995)** The DASS-21 item version. The DASS-21 is a self-report tool containing 21 items (7 per scale) that assess three constructs: Depression, Anxiety, and Stress (Lovibond & Lovibond, 1995). It uses a 4-point Likert-type scale ranging from 0 (Did not apply to me at all) to 3 (Applied to me very much or most of the time). It has adequate reliability and validity.
- **PTGI (Tedeschi & Calhoun, 1996)** The Posttraumatic Growth Inventory is a 21-item that measures the degree of the positive changes experienced in the aftermath of a traumatic event. It consists of five subscales: Relating to Others (7 items), New Possibilities (5 items), Personal Strength (4 items), Spiritual Change (2 items), and Appreciation of Life (3 items). Internal consistency for the total score and subscales of the PTGI has been reported as satisfactory (α coefficient for the total scale = .90, Relating to Others = .85, New Possibilities = .84, Personal Strength = .72, Spiritual Change = .85, and Appreciation of Life = .67), and the test-retest reliability (.71) over 2 months has also been reported based on the sample of university students in the original study. It is a 6-point Likert scale, with values ranging from 0 (I did not experience this change as a result of my crisis) to 5 (I experienced this change to a very great degree as a result of my crisis). The possible total scores can therefore range from 0 to 105.

Phase II - Qualitative Phase Objectives:

- To explore the levels of depression, stress, anxiety and the process from loss to higher and lower scores of depression, stress, and anxiety.
- To explore levels of post traumatic growth, post the pandemic.

Study setting: Delhi NCR

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Study participants: Adolescents aged 14 - 18 years from lower income households in Delhi NCR

Inclusion criteria

- Both male and female students
- Adolescents who have experienced loss
- Ages 14-18
- From lower income households
- Ability to converse in English or Hindi
- Resident of Delhi NCR region

Sample size: 10-15 participants

Sampling method: Purposive Sampling

Outcome variable: Depression, anxiety, stress and Post Traumatic Growth

Data analysis

Thematic analysis was used for data analysis. Inter-rater reliability was achieved by having multiple researchers analyzing the interview schedules.

Data collection tools

A semi structured questionnaire was prepared and in-depth interviews were conducted with the participants. Multiple researchers evaluated the interview questions according to set criteria in order to create subjective judgments.

Mixed method Procedure (refer to Figure 1)

Main Study. After receiving the approval from the Ethics Committee, the interviews were conducted. The method of data collection was Google form/phone call using specific scales. Consent and assent was sought from the parents and participants respectively at every stage of the study. Their email ID and phone number were collected which will be used to share further information, and destroyed 5 years after the study has completed. In view of the pandemic, the interviews took place via audio calls, where the children were asked questions related to their mental health, coping strategies and experience. The researchers ensured the availability of trained mental health professionals in case any of the participants experienced any discomfort during the interview.

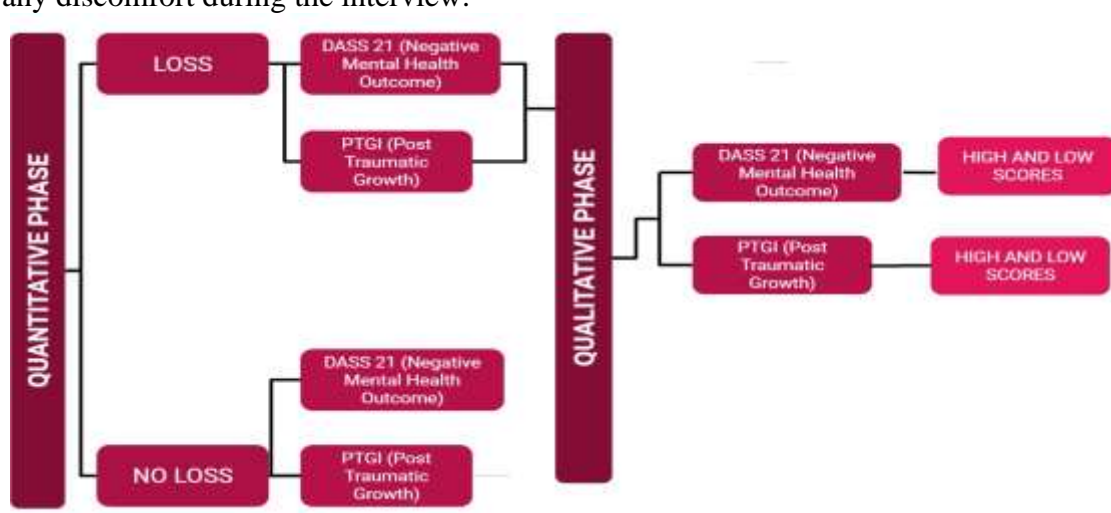


Figure 1. Phases of quantitative and qualitative data collection in the main study.

RESULTS

According to the aim of the study, the correlation analysis was conducted between the scores received for DASS 21 and PTGI. The scores received suggested the correlation between the two variables as 0.219 indicating a low Positive Correlation. The scatter plot between the two variables can be seen in Figure 2.

DASS-21 vs. PGTI SUM

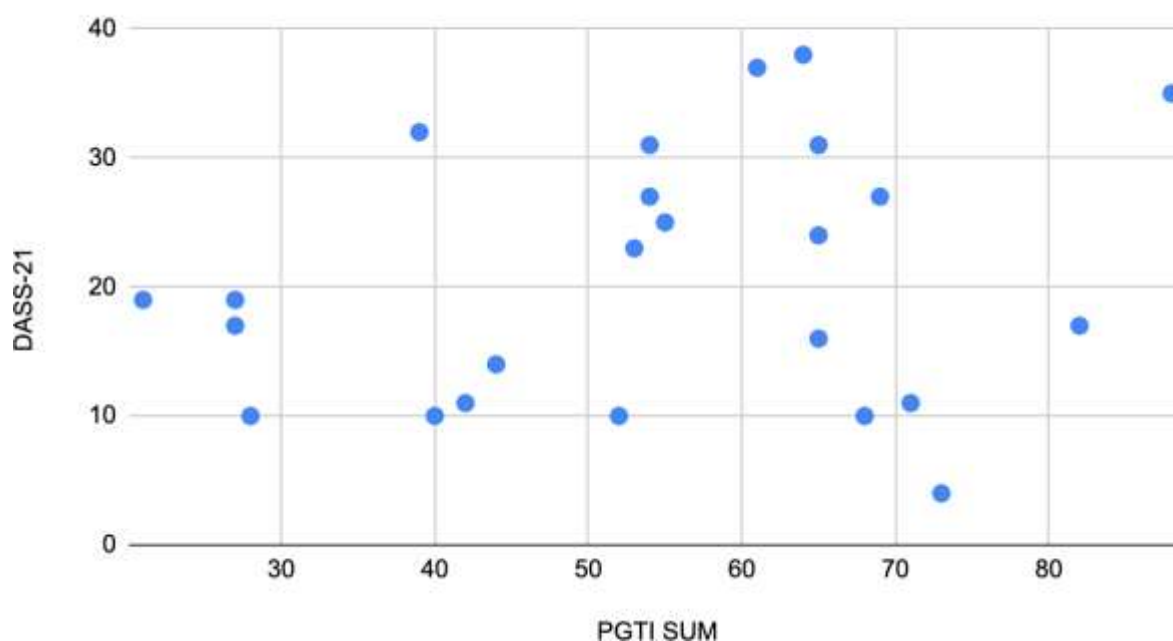


Figure 2. Scatterplot between DASS 21 and PTGI scores.

Further, a qualitative analysis was conducted using semi-structured interviews. Based on the narratives of the participants, it was found that children between the ages of 14 and 18 in Delhi NCR underwent some psychological distress during the pandemic. The analysis represented three themes: 1. The general awareness about mental health was low. 2. Psychological distress during pandemic was evident among the participants. 3. Learning new activities and developing skills were two ways of coping for the participants. The findings from the themes are explained below:

General awareness about mental health among the participants

Researchers found that many of the participants in the study had some understanding of mental health. However, the complete knowledge of what mental health entails, was lacking. It was reported that few children were aware of mental health professionals through a few workshops conducted at their schools which enlightened them about mental health. For instance, when asked about what they understood from mental health, participant A mentioned: “Mental health matlab mansik sithi, jaise physical health hoti hai waise hi mental health bhi hoti hai, Jiase jab koi pareshan hota hai to usse depression hota hai” (Hindi). “Mental Health means someone’s mental status. Just like physical health there is mental health. If someone is disturbed, they go into depression” (English).

Participants further reported how they experienced interactions with counselors. The study found that before the pandemic, some schools in Delhi had teachers who provided

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counseling to students when needed. This experience was highly appreciated by the participants. Participant B shared: *“Yes, mental health professionals, jinko mental health ki zyaada problem hoti voh unke paas jaatein hai, school offers, teachers have allotted counselors to each student. abhi nahi hota, pehle karte the, achha lagta tha, voh experience deti thi”* (Hindi). *“Yes, Mental healthcare professionals are those who help those who suffer from mental health problems. In schools, each student is allotted a counselor. Now we do not have this in our schools, but earlier when we had such a setup in our schools it was a nice experience”* (English).

This reflected that although participants did not have detailed knowledge, they were aware of mental health and professional support like that from counselors, entailing mental health.

Psychological distress during pandemic was evident among the participants:

The impact of the pandemic caused some psychological problems among the participants. Children were found to experience depression, anxiety or stress at various times. Reports suggest that even participants who had not suffered a loss of a loved one during the pandemic, struggled with numerous psychological problems during the pandemic. Participant C mentioned: *“Mujhe uss samey pe negative thoughts aate the jaise ki agar covid hua to kya hoga, sab family wale log hai, kaise hoga sab”* (Hindi). *“I used to have negative thoughts - worried if I get COVID positive then how will we manage things around. I was worried about my family if any of us got infected”* (English).

This suggested that COVID-19 had a strong influence on these families, causing emotional distress. Staying in isolation was challenging for the participants and the unpredictability contributed to their anxiety. The fear of getting infected was prevalent, as the risk of getting infected was very high, even if one member turns positive within the family.

Some narratives demonstrated other factors leading to anxiety are the restrictions imposed. They found it difficult to stay in the house. The participants suggested they were not able to meet their friends. Everyone had to distance themselves socially. The situations were frightening as few of the participants and their families always remained doubtful about getting food supplies in the coming days. The participants reported that watching the news was also scary. All these factors played a major role in creating negative thoughts and stress, as participant B mentioned: *“Ghabrahat hoti thi and ajeeb sa lagta tha. Sabse alag hoke rehte the and kahi bahar nahi jaa sakte the to ajeeb lagta tha.”* (Hindi) *“I used to panic. It was weird to see everyone maintaining social distance, no one was allowed to go out anywhere which was all weird.”* (English). Participant D suggested, *“Curfew tha aur khane peene ki dikhat thi to udaas ho jate the, khana milega ki nahi ki chinta rehti thi, online class mei kuch smajh nhi aata tha”* (Hindi). *“Because of the curfew, it was difficult to get food, we were worried if we would be able to get food supplies or not. We also faced challenges in online classes”* (English).

Coping by learning new things and skill development

In contrast, “spending more time with the family” and learning new things were some of the ways the participants dealt with the situation. Their time spent with family members had a positive impact on them. For instance, Participant F mentioned, *“ghar main logon se baat karte the, enjoy karte the by talking to brothers and sisters, maasti karti the, parents ghar pe the toh timeass with them - achha lagta tha, tension kam hoti this kyunki jab school khula tha toh gharwale kam time de paate the ek dusre ko - cherishes time spent together - usme*

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humne ek dusre ko zyaada achhe se samjha” (Hindi). “We used to talk to family members, we used to have fun talking to brothers and sisters. As parents were also at home, we used to spend a lot of time together – I used to feel nice about it, we were less tense as we were not going to school. During normal days when we had to go to school, we barely got time to spend with the family together. During this period we started understanding each other more” (English).

The participants were able to notice changes in their thought process. They developed self-confidence and felt ready to face any kind of challenge. During the lockdown, they learned new skills through new activities such as cooking, yoga and computers. They were able to spend their free time with their family members, which helped strengthen their bonds with each other. Participant E echoed this when they shared, “*yes to badlav, ki kuch bhi karna hai life main, sab kuch sochke rakhna hai, kuch bhi kabhi bhi ho sakta hai, kuch pata nahi hai. emotional strength has increased a little bit” (Hindi). “Yes to changes, Now I have realized the importance of planning life in advance as I want to do things in life. Life is very unpredictable. I feel I have developed emotional strength” (English).* Further, Participant C shared, “*uss time mein main jo karna chahti hu uspe focus karti hu, uspe focus karti hun, achha lagta hai, kyunki voh main apne liye kar rahi hun. computer, khushi milti hai kyunki usme career banana hai. Covid ke time pe computer nahu ta, phone tha aur usko dekhke khushi milti thi. Videos dekhti thi. I listened to music...sunti thi, mann fresh hota hai, tension kam, khushi - ab bhi sunti hoon. Lekin the type of music I listen to has changed but I still listen” (Hindi). “I try to focus on the work I am doing at the moment and I feel nice about it as I am doing it for myself. I wanted to learn computers because it gave me happiness and because I want to make my career out of it. During COVID, I had a phone and I used to listen to music on that phone and it used to refresh my mind, give me less tension, happiness-even now I listen. But the type of music I listen to has changed but I still listen” (English).* While Participant A shared how their priorities in life had changed, and what their learning was from the pandemic, “*time ko waste nahi karna hai, jo time milla hai seekhne ka zyaada, knowledge gain karna hai, apne aap ko better karna hai, covid ke dauraan utna sochti nahi thi kisi ki cheez ke baare main, ab shuru kiya hai - future, career” (Hindi). “I do not want to waste time, the time I got to learn more, to gain knowledge, I want to improve myself now, during COVID I did not think of anything, now I have started to think about my future, career” (English).*

Overall, as seen from results of the qualitative section, the pandemic played a significant role in the lives of the participants. Although the initial difficult period had a psychological impact on the participants causing stress and anxiety, they were able to adapt and thrive eventually. Participants shared that they were now able to understand themselves better, develop a stronger bond between parents and children, value time more, and believe in themselves and their future. It is important to note that none of the participants had undergone loss of any kind, and the findings suggest the experiences of adolescents who had not faced loss of a loved one during the pandemic.

Relevant Implications

The current study would help sensitize stakeholders such as parents, legal guardians, teachers, school board members, administrators, social care providers, and policy makers of the impact of loss on the psychological wellbeing of adolescents from lower income households. This may encourage them to take measures to counter the same, or seek help when needed. Also, it will help to formulate socio-economic specific intervention models

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targeting loss and its effect on negative and positive mental health outcomes, for schools, parents, and NGOs. Lastly, the study will help to fill the gaps in existing literature as previous research does not focus greatly on this demographic and overlooks the aspect of Post Traumatic Growth among adolescents. This will further help to identify the burden of mental health issues amongst the youth and lead to greater awareness and encourage research and measures to address the same in the future.

Ethical Considerations

- **Informed Consent:** Data was only collected after getting consent from the parents or legal guardians of participants and assent was sought from the participants. The participants were informed that they were free to leave the study at any point.
- **Rights of Participants:** Information about the purpose and duration of the study, any particular requirement the participants have to satisfy and possible risks involved was conveyed to the participants.
- **Voluntary Participation:** Participants were given the option of participating or not in the study. They had the liberty to choose to participate, and they were free to leave the study at any point. Participants were informed that they would not be penalized if they chose to withdraw after the research had started. This provision was known to the research samples prior to their participation in this study.
- **Confidentiality:** Absolute confidentiality and anonymity was maintained. The data collected from the participants will purely be used for research purposes only.
- **Debriefing:** The participants were provided with all the necessary information regarding the study being conducted, for their complete understanding of the research and its purpose. This ensures that the participants will leave the study in the same physical and mental state as they were before the study was conducted. Further, none of the individuals were identified as having risk factors or needing intervention. The researchers ensured the availability of trained mental health professionals in case the need arose.
- **Sharing the Results of the Study:** The results of the study were made available to the participants, and shared after the study was complete.

Limitations & Future Directions

This study paper provides evidence on a topic that is not very well researched, however, it has a few limitations.

1. The first limitation was a lack of understanding of the importance of the study. The participants were not willing to sit for the qualitative round of interviews, or give their time. As a result, there was a loss to follow up.
2. The second limitation was the small sample size for the study due to the difficulty in identifying participants available for telephonic interviews. The availability of the children for the telephonic interview was a challenge. A large number of children moved to their native village during the COVID period, and thus were not studying in schools in Delhi during those two years.
3. Our major limitation was to get participants who experienced the loss of their close ones. The researchers felt that participants were not willing to share their negative experiences and share the loss experienced if any. This affected the results of our study as one of the objectives of this study was to assess if post-traumatic growth is significantly different among individuals who have experienced loss and those who

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haven't experienced them. Hence, we focused the current study on the experience of the pandemic, and did not focus on the loss aspect.

Although the current study has provided preliminary information about the impact of the pandemic on adolescents aged 14-18 years, in the future, more research needs to be conducted on the impact of psychological stress, more specifically the impact of loss after the pandemic. Longitudinal research assessing the long-term impact of the pandemic on adolescents in a larger age range of 13-18 years will also provide relevant findings about this area of research.

REFERENCES

- Chen, C., & Tang, S. (2021). Profiles of grief, post-traumatic stress, and post-traumatic growth among people bereaved due to COVID-19. *European Journal of Psychotraumatology*, *12*(1). <https://doi.org/10.1080/20008198.2021.1947563>
- Fan, F., Zhang, Y., Yang, Y., Mo, L., & Liu, X. (2011). Symptoms of posttraumatic stress disorder, depression, and anxiety among adolescents following the 2008 Wenchuan earthquake in China. *Journal of Traumatic Stress*, *24*(1), 44–53. <https://doi.org/10.1002/jts.20599>
- Gassman-Pines, A., Ananat, E. O., & Fitz-Henley, J. (2020). COVID-19 and Parent-Child Psychological Well-being. *Pediatrics*, *146*(4). <https://doi.org/10.1542/peds.2020-007294>
- Goenjian, A. K., Walling, D., Steinberg, A. M., Roussos, A., Goenjian, H. A., & Pynoos, R. S. (2009). Depression and PTSD symptoms among bereaved adolescents 61/2 years after the 1988 Spitak earthquake. *Journal of Affective Disorders*, *112*(1–3), 81–84. <https://doi.org/10.1016/j.jad.2008.04.006>
- Imran, N., Aamer, I., Sharif, M. I., Bodla, Z. H., & Naveed, S. (2020). Psychological burden of quarantine in children and adolescents: A rapid systematic review and proposed solutions. *Pakistan Journal of Medical Sciences*, *36*(5). <https://doi.org/10.12669/pjms.36.5.3088>
- Jewell, J. S., Farewell, C. v., Welton-Mitchell, C., Lee-Winn, A., Walls, J., & Leiferman, J. A. (2020). Mental health during the COVID-19 pandemic in the United States: Online survey. *JMIR Formative Research*, *4*(10). <https://doi.org/10.2196/22043>
- Jiao, W. Y., Wang, L. N., Liu, J., Fang, S. F., Jiao, F. Y., Pettoello-Mantovani, M., & Somekh, E. (2020). Behavioral and Emotional Disorders in Children during the COVID-19 Epidemic. *Journal of Pediatrics*, *221*, 264-266. <https://doi.org/10.1016/j.jpeds.2020.03.013>
- Liu, J. J., Bao, Y., & Huang, X., Jie Shi, & Lin Lu. (2020). Mental health considerations for children quarantined because of COVID-19. *The Lancet Child Adolesc Health*, *4*(5), 347–349. [https://doi.org/https://doi.org/10.1016/S2352-4642\(20\)30096-1](https://doi.org/https://doi.org/10.1016/S2352-4642(20)30096-1)
- Petito, A., Pop, T. L., Namazova-Baranova, L., Mestrovic, J., Nigri, L., Vural, M., Sacco, M., Giardino, I., Ferrara, P., & Pettoello-Mantovani, M. (2020). The Burden of Depression in Adolescents and the Importance of Early Recognition. *Journal of Pediatrics*, *218*, 265-267. <https://doi.org/10.1016/j.jpeds.2019.12.003>
- Pham, S., Porta, G., Biernesser, C., Payne, M. W., Iyengar, S., Melhem, N., & Brent, D. A. (2018). The burden of bereavement: Early-onset depression and impairment in youths bereaved by sudden parental death in a 7-year prospective study. *American Journal of Psychiatry*, *175*(9), 887–896. <https://doi.org/10.1176/appi.ajp.2018.17070792>

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- Reiss, F., Meyrose, A. K., Otto, C., Lampert, T., Klasen, F., & Ravens-Sieberer, U. (2019). Socioeconomic status, stressful life situations and mental health problems in children and adolescents: Results of the German BELLA cohort-study. *PLoS ONE*, *14*(3). <https://doi.org/10.1371/journal.pone.0213700>
- Sharma, R. (2017). Revised Kuppaswamy's socioeconomic status scale: explained and updated. *Indian pediatrics*, *54*(10), 867-870.
- Singh, S., Roy, D., Sinha, K., Parveen, S., Sharma, G., & Joshi, G. (2020). Impact of COVID-19 and lockdown on mental health of children and adolescents: A narrative review with recommendations. *Psychiatry Research*, *293*. <https://doi.org/10.1016/j.psychres.2020.113429>
- Solantaus, T., Leinonen, J., & Punamäki, R. L. (2004). Children's mental health in times of economic recession: Replication and extension of the family economic stress model in Finland. *Developmental Psychology*, *40*(3), 412–429. <https://doi.org/10.1037/0012-1649.40.3.412>
- Tedeschi, R. G., & Calhoun, L. G. (1996). The Posttraumatic Growth Inventory: Measuring the Positive Legacy of Trauma. *Journal of Traumatic Stress*, *9*(3).
- Zhou, N., Yu, W., Tang, S., Wang, J., & Killikelly, C. (2018). Prolonged grief and post-traumatic growth after loss: Latent class analysis. *Psychiatry Research*, *267*, 221–227. <https://doi.org/10.1016/j.psychres.2018.06.006>

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Conflict of Interest

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