# Impact of Coronavirus on Psycho-anthropological Perspectives among the Girls Pursuing Higher Education in Lucknow City

KAVYA PAL[‡] & K.K.N. SHARMA[†]

*Department of Anthropology,*
*Dr. Harisingh Gour Vishwavidyalaya,*
*Sagar 470003, Madhya Pradesh*
E-mail: kavyapal786@gmail.com

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*ABSTRACT*: This study investigates the socio-demographic, health, and behavioural factors associated with reassurance-seeking behaviour during the COVID-19 pandemic, with a focus on girls aged 18-35, primarily undergraduates, post-graduates, and Ph.D. candidates. Using the Corona Reassurance-Seeking Behaviour Scale (CRSBS), data from 500 girl students from University and colleges of Lucknow were analyzed through purposive sampling in a cross-sectional study. The research explores how socio-economic status, educational attainment, and mental health conditions such as depression and anxiety influence CRBS prevalence. Results indicate higher CRBS scores among participants from lower socio-economic backgrounds, highlighting significant links between mental health issues and CRBS responses. While most socio-demographic variables did not significantly impact CRBS status, family type suggested trends in social support dynamics. The prevalence of reassurance-seeking behaviour underscores the high levels of pandemic-induced anxiety. This study emphasizes the need for targeted mental health interventions and a comprehensive understanding of the complex interplay between socio-demographic factors and health behaviours during crises. It concludes with recommendations for educational institutions to enhance mental health support systems, including counselling services, mental health workshops, and robust support networks, to better manage the ongoing effects of the pandemic on the psychological well-being of students pursuing higher education.

## INTRODUCTION

At the end of 2019, a virus led to an outbreak of viral pneumonia, officially termed Coronavirus disease (COVID-19). The coronavirus is a family of viruses known for containing strains that cause potentially deadly diseases in mammals and birds. In humans, these viruses can lead to respiratory infections ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS) and severe acute respiratory syndrome (SARS) Cucinotta and Vanelli (2020). The most recently discovered coronavirus causes the coronavirus disease COVID-19 (Gorbalenya *et al*., 2020). COVID-19 was first identified in December 2019 in Wuhan, Hubei province, China. While the exact origin is still under investigation, early hypotheses suggested a potential zoonotic origin, with the virus possibly passing to humans from animals sold at Wuhan's seafood market. Bats are considered natural hosts of these viruses; however, intermediate hosts are often involved in zoonotic transmission to humans (Gostin and Gronvall, 2023).

[‡] Research Scholar, corresponding author

[†] Assistant professor

The intensity of COVID-19 symptoms varies greatly and usually appears 2–14 days after viral infection. Frequent symptoms include coughing, fever or chills, and dyspnea or shortness of breath. Along with these symptoms, people may also have headaches, exhaustion, runny or congested noses, sore throats, nausea, vomiting, diarrhoea, and a sudden loss of taste or smell. Serious side effects include pneumonia, Acute Respiratory Distress Syndrome (ARDS), organ failure, and even death can result from the infection in extreme circumstances. Those with existing medical issues and older persons are more likely to have these catastrophic results. Airborne transmission, particularly in enclosed spaces with poor ventilation, has also been documented (Shereen *et al.*,2020).

The COVID-19 pandemic has had a profound and multifaceted impact across various sectors globally. In education, widespread closures of schools and universities disrupted the learning process for billions of students, forcing a rapid transition to online learning and highlighting significant disparities in access to technology and internet connectivity. Economically, the pandemic triggered severe disruptions, resulting in job losses, business closures, and a downturn in global markets, prompting governments to implement fiscal measures such as stimulus packages and financial support for unemployed individuals and affected businesses. The mental health of the general population also suffered greatly, with increased levels of stress, anxiety, and depression due to isolation, income loss, fear of contagion, and bereavement, particularly affecting healthcare workers and those with pre-existing mental health conditions. Global responses to the pandemic included lockdowns, travel restrictions, mask mandates, and vaccination campaigns, with vaccine development and distribution playing a crucial role in controlling the virus's spread and severity. However, challenges like vaccine hesitancy, unequal access to vaccines, and the emergence of new variants continue to complicate efforts to manage and overcome the pandemic . It has also brought attention to anthropological issues like social inequality, cultural changes in health behaviours, and the effects of disrupted communal practices. These related problems highlight the necessity of a comprehensive strategy for public health that takes sociocultural dynamics and mental health into account (Bavel et al. 2020 ; McGowan et al., 2020; Tracy et al., 2011)

The study aimed to identify the association between reassurance-seeking behaviours and socio-demographic factors such as age, educational status, family types, marital status, and economic status, examining the broader psycho-anthropological perspectives of the pandemic, including symptoms of stress, anxiety,S and depression. The Psycho-anthropological term combines psychological and anthropological approaches for the study, where "Psycho" serves as a prefix for psychology and together with "anthropological", it forms "Psycho-anthropological" in health perspectives.

## MATERIALS & METHODS

A cross-sectional study was conducted to achieve the designated goal among girls pursuing higher education in Lucknow City, Uttar Pradesh, India. We recruited a total of 500 participants, all aged between 18 and 35 years, using a purposive sampling technique. The study included intensive anthropological fieldwork, which involved conducting interviews to gather data through an interview schedule that included general information about the participants and socio-demographic variables such as age, educational status, family type, marital status and socio-economic status which was calculated according to the Modified Kuppuswamy Scale (Mandal and Hossain, 2024).

To assess the psychological impact of the pandemic, we incorporated the Coronavirus Reassurance-Seeking Behaviour Scale, which measures behaviours like regularly monitoring for symptoms, repeatedly looking up information about the virus, speaking with medical specialists, and asking loved ones for comfort. This measure is useful for comprehending people's behavioural and psychological reactions to the pandemic, especially those related to coping strategies and health concerns ( Lee et al., (2020). Along with that Depression, Anxiety, Stress Scale (DASS-21) has been incorporated to assess the Depression, Anxiety, and Stress among the students. The DASS-21, developed by Lovibond and Lovibond in 1995, consists of 21 questions, with 7 items allocated to each of the three mental health

categories (Pal and Sharma (2023).

Before data collection, ethical approval was obtained from the Institutional Ethical Committee (IEC registration no.: EC/NEW/INST/2020/1349) and the IEC approval number (DHSGV/IEC/2022/07). Permission for fieldwork in Lucknow city was also secured from the District Magistrate. Signed consent forms were obtained from the participants before conducting the interviews, following the guidelines of the Helsinki Declaration (2008) Andrea *et al*. (2014)

## RESULTS

Table 1 presents data collected from the 500 participants. The study was likely conducted to understand various demographic, social, and health-related characteristics of a specific population. The table consists of several categories: Age Group, Social Category, Religion, Education, Family Type, Marital Status, Birth Order, Living Status, and Household Income.

TABLE 1

*Socio-demographic characteristics of the Participants*

| Variable (N=500) | Category | Frequency (n) | Percentage (%) |
|---|---|---|---|
| Age Group (Years) | 18-25 | 441 | 88.2 |
| | 26-35 | 59 | 11.8 |
| Social Category | UR | 183 | 36.6 |
| | OBC | 179 | 35.8 |
| | SC | 48 | 9.6 |
| | ST | 35 | 7 |
| | EWS | 55 | 11 |
| Religion | Hindu | 376 | 75.2 |
| | Muslim | 115 | 23 |
| | Sikh | 5 | 1 |
| | Christian | 2 | 0.4 |
| | Buddhism | 2 | 0.4 |
| Education | Graduate | 270 | 54 |
| | Post Graduate | 180 | 36 |
| | Doctoral | 50 | 10 |
| Family Type | Nuclear | 253 | 50.6 |
| | Joint | 186 | 37.2 |
| | Extended | 61 | 12.2 |
| Marital Status | Married | 27 | 5.4 |
| | Unmarried | 473 | 94.6 |
| Birth Order (Years) | 1 | 214 | 42.8 |
| | 2-3 | 257 | 51.4 |
| | 4-5 | 29 | 5.8 |
| Living Status | Living without Family Members | 233 | 46.6 |
| | Living with Family Members | 267 | 53.4 |
| Household Income (Rupees per Month) | Below 10000 | 101 | 20.2 |
| | 10001-25000 | 259 | 51.8 |
| | 25001-50000 | 83 | 16.6 |
| | 50000 Above | 57 | 11.4 |

Note: Unreserved Category (UR), Other Backward Classes (OBC), Scheduled Castes (SC), Scheduled Tribes (ST), Economically Weaker Section (EWS)

In the age group segment, the 18-25 years age dominated the sample, with 441 participants (88.2%), indicating that the research targeted a predominantly young demographic. The 26-35 years group has 59 participants (11.8%), showing limited participation from elder girls.

Social Category details caste-based social stratification, where the Unreserved Category (UR) and Other Backward Classes (OBC) were almost equally represented at 36.6% and 35.8%, respectively while Scheduled Castes (SC) and Scheduled Tribes (ST) were found to be less in the study,

Most of the participants were Hindu with 75.2%, which aligns with national demographic trends. The second-largest group at 23% was Muslim. Other religions like Sikh, Christian, and Buddhism had

minimal representation. Among the participants, 54% were graduate students, while 36% were pursuing postgraduate studies. Half of the participants (50.6%) came from nuclear families. Joint and Extended families were also significant, showing traditional family structures remain prevalent. A vast majority were unmarried (94.6%), consistent with the younger age demographic of the survey. The birth order distribution shows most were either the first child (42.8%) or fell within the 2-3 birth order (51.4%), possibly indicating smaller family sizes. The data showed a nearly even split between those living with family members (53.4%) and those living independently (46.6%). More than half of the participants (51.8%) had household incomes between 10,001 to 25,000, indicating a middle income.

TABLE 2

*COVID-19-related Responses of the Participants*

| Variable (N=500) | Category | Frequency (n) | Percentage (%) |
|---|---|---|---|
| Perceived physical health status | Poor | 76 | 15.2 |
| | Average | 246 | 49.2 |
| | Good | 178 | 35.6 |
| Contact with known suspected cases of the COVID-19 Pandemic | Yes | 33 | 6.6 |
| | No | 225 | 45 |
| | Unsure | 242 | 48.4 |
| Perceived Knowledge about COVID-19 pandemic | Poor | 17 | 3.4 |
| | Average | 249 | 49.8 |
| | Good | 234 | 46.8 |
| Perceived knowledge of COVID-19 pandemic Vaccine | Poor | 38 | 7.6 |
| | Average | 270 | 54 |
| | Good | 192 | 38.4 |
| Status of COVID-19 pandemic Vaccination | Haven't yet been vaccinated | 30 | 6 |
| | Received One Dose | 275 | 55 |
| | Received 2nd Dose | 195 | 39 |

Most participants were unsure (48.4%) or had not had contact (45%) with known COVID-19 cases, reflecting uncertainty or limited direct exposure to the virus. Responses suggested a moderate level of knowledge about COVID-19 with 49.8% rating their knowledge as average, and 46.8% as good. Perceived knowledge of the COVID-19 Pandemic Vaccine shows Knowledge of the COVID-19 vaccine was slightly lower compared to general knowledge about the pandemic, with 54% average and 38.4% good. More than half (55%) had received one dose of the vaccine, and 39% had received both doses. Only a small fraction (6%) had not been vaccinated yet (Table 2).

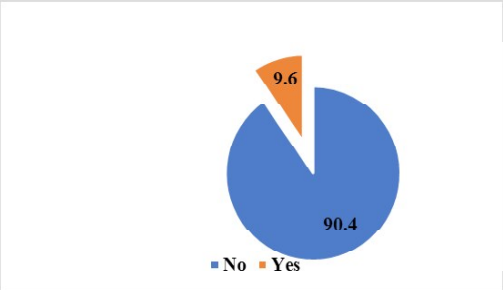


Figure 1: Percentage of CRBS scale of the participants

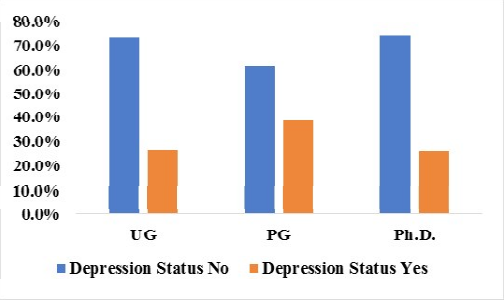


Figure 2: Showing depression based on education status

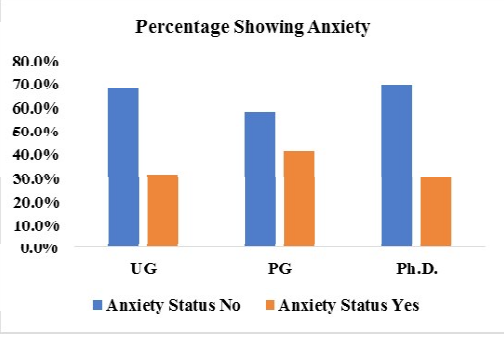


Figure 3: Showing anxiety based on educational status

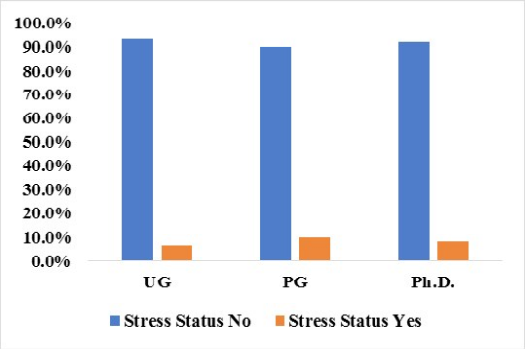


Figure 4: Showing stress based on educational status

Figure 1 represents the percentage of the participants who had coronavirus reassurance behaviour. It has been found that 90.4% of the participants had reassurance behaviour for COVID-19.

Figure 2 there shows that 70% of Ph.D. and UG students had depression. Figure 3 shows that 70% of Ph.D. students had anxiety levels among them. The above figure 4 shows that UG students had more stress levels i.e. 90 %.

TABLE 3

*Association between CRBS and DASS- 21 responses*

| Variable | CRBS Response | | $\chi^2$ | df | p-value |
|---|---|---|---|---|---|
| Depression | No | Yes | 32.048 | 1 | 0.00* |
| No | 330 (95.4%) | 16 (4.6%) | | | |
| Yes | 122 (79.2%) | 32 (20.8%) | | | |
| Anxiety | | | | | |
| No | 310 (95.7%) | 14 (4.3%) | 29.558 | 1 | 0.00* |
| Yes | 142 (80.7%) | 34 (19.3%) | | | |
| Stress | | | | | |
| No | 430 (93.5%) | 30 (6.5%) | 62.783 | 1 | 0.00* |
| Yes | 22 (55.0%) | 18 (45.0%) | | | |

The above table 3 presents the findings of the statistical analysis exploring the association between a variable called "CRBS Response" and three mental health conditions: stress, anxiety, and depression which were calculated by using DASS-21. The chi-square test was employed in the analysis to investigate the statistical significance of variations in the CRBS response between groups that were subjected to these circumstances. Two response categories ('No' and 'Yes') for each situation in the table indicate whether the CRBS Response is present or not. A robust association between the CRBS response and every mental health measure was found highly significant chi-square test findings ($p = 0.00$) for all situations.

Regarding depression, the data indicates that 32 out of 154 people with depression (20.8%) and 16 out of 346 people without depression (4.6%) both showed the CRBS response. This was interpreted that the CRBS response was more common in those who were depressed. When it comes to anxiety, a similar trend was seen: 34 out of 176 people with anxiety (19.3%), compared to just 14 out of 324 people without anxiety (4.3%) who had the CRBS response. With 18 out of 40 stressed people (45.0%) and 30 out of 460 non-stressed individuals (6.5%) displaying the CRBS response, the association for stress was much greater. The significant differences in CRBS response across the groups were confirmed by the chi-square values (32.048 for depression, 29.558 for anxiety, and 62.783 for stress). These results show the substantial impact that mental health illnesses have on the probability of displaying the CRBS response. They also demonstrate a noteworthy association between mental health conditions and specific behaviours or responses as assessed by the CRBS.

Table 4 presents an analysis exploring the association between Coronavirus Reassurance-Seeking Behaviour (CRBS) status and various sociodemographic variables. Key variables examined include age, religion, social category, marital status, type of family, and educational status.

From the descriptive analysis, two observations were found noteworthy. First, the chi-square test reveals no statistically significant association between CRBS status and most socio-demographic variables, including age, religion, social category, marital status, and educational status, as all these variables show p-

values well above the commonly accepted threshold of 0.05 for statistical significance. For instance, age groups 18-25 and 26-35 show a p-value of 0.272, and marital status categories (married vs. unmarried) have a p-value of 0.245, indicating no significant differences in CRBS status across these groups.

TABLE 4

*Association between CRBS status and Socio-demographic variables*

| Variable | Category | n | $\chi^2$ | df | p-value |
|---|---|---|---|---|---|
| Age Group | 18-25 | 40 | 1.208 | 1 | 0.272 |
| | 26-35 | 8 | | | |
| Religion | Hindu | 38 | 1.175 | 1 | 0.882 |
| | Non-Hindu | 10 | | | |
| Category | UR | 19 | 4.169 | 4 | 0.384 |
| | OBC | 14 | | | |
| | SC | 8 | | | |
| | EWS | 5 | | | |
| Marital Status | Married | 25 | 1.143 | 1 | 0.245 |
| | Unmarried | 47 | | | |
| Type of Family | Nuclear | 31 | 5.366 | 2 | 0.068 |
| | Joint | 15 | | | |
| | Extended | 2 | | | |
| Educational status of participants | Graduate | 20 | 4.329 | 2 | 0.115 |
| | Post Graduate | 20 | | | |
| | Doctoral | 8 | | | |
| Socio-economic Status | Lower (V) | 0 | 4.561 | 4 | 0.335 |
| | Upper lower class (IV) | 0 | | | |
| | Lower middle class (III) | 2 | | | |
| | Upper middle class (II) | 7 | | | |
| | Upper class (I) | 1 | | | |

However, the type of family variable, which is divided into nuclear, joint, and extended, shows a relatively lower p-value of 0.068. Although this is still above the 0.05 threshold and thus not statistically significant, it suggests a potential trend where the type of family might have a closer association with CRBS status than other variables. The chi-square value of 5.366 for this variable is the highest among the examined factors, pointing to a possible area for further investigation.

## DISCUSSION

The COVID-19 pandemic has caused several behavioural alterations in humans. Such behavioural changes cause a specific type of worry in which the individual constantly has concerns about their health and periodically seeks to find out more about it. We refer to this kind of mental disposition as reassurance behaviour, i.e., time to time, people were making sure that they hadn't been infected by the coronavirus, for which they used to take temperatures frequently, check their symptoms, and often asked for others' opinions. (Lee *et al*., 2020) were of the view that the worry about coronavirus infection anxiety was due to the reassurance behaviour of the people towards the COVID-19 pandemic.

Hence, this study has tried to find out a wide range of sociodemographic, health, and behavioural factors associated with the COVID-19 pandemic, demonstrating an extensive investigation intended to comprehend the complex effects of the pandemic on a particular demographic.

### *Demographic and Social Characteristics*

The study's demographic focus was primarily on girls 18- 35 years of age. This age group's predominance reflects the research's target population or the digital or institutional settings often frequented by younger adults, such as universities or online platforms (Manrique-Millones *et al*., 2023).

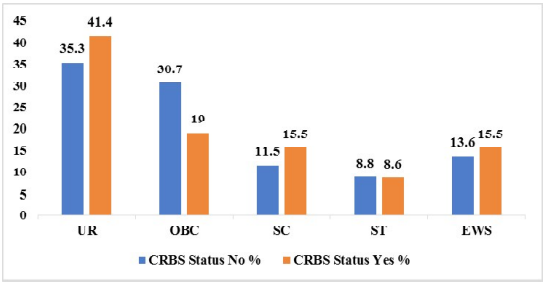


Figure 5: Showing social category vise CRBS status

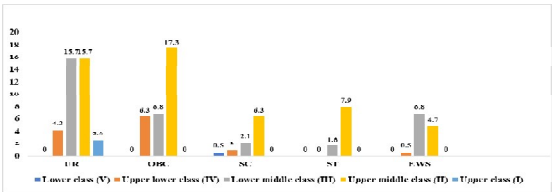

Figure 6: Showing distribution of CRBS scale scores by socio-economic class and social category

In our study, we observed a higher prevalence of CRBS scale scores within the UR category, specifically 41.1%. This finding suggests that socioeconomic factors play a significant role in influencing CRBS prevalence, as evidenced by the higher percentage of CRBS scores in the UR category, particularly among the lower middle class. Individuals from lower socio-economic statuses experience higher stress and anxiety levels due to financial instability, limited access to healthcare, and lower educational opportunities, which are well-documented contributors to adverse health outcomes (Reiss et al., (2019). Moreover, socio-demographic factors such as age and education level could also influence CRBS scale scores. For instance, younger individuals or those with lower educational attainment might lack the resources or coping mechanisms to effectively manage stress, leading to higher CRBS scores (Attia *et al.*, 2022). Furthermore, previous research has highlighted the intersectionality of these factors, indicating that the combined impact of low socio-economic status and other socio-demographic variables can exacerbate stress levels and related health issues Mamede *et al.* (2022). This distribution might mirror underlying societal structures or specific outreach efforts (Baru and Zafar, 2022; Gupta and Kumar, 2018).

The religious demographic aligns with national trends, with a majority identifying as Hindu, followed by Muslims, which matches the general population distribution in many areas Census of India (2011). Educational attainment levels are notably high, with a significant portion of participants being graduates or postgraduates, which suggests that the research's focus areas or channels were more accessible or attractive to more educated individuals (Agberotimi et al., (2020).

### *Health-related Characteristics and COVID-19 Specific Responses*

The health status of participants, with many rating their health as average or good, suggests a relatively young and healthy population cohort. This self-assessment might influence their perceptions and behaviours related to the pandemic (Manrique-Millones *et al.*, 2023). When it comes to COVID-19-specific behaviours, a majority of participants demonstrated reassurance-seeking behaviour, which is consistent with the high levels of uncertainty and anxiety induced by the pandemic globally (Plomekcka *et al.*, 2020). Knowledge about COVID-19 was rated as average to good, which is crucial for effective public health responses.

### *Mental Health Insights*

The link between mental health conditions (depression, anxiety, and stress) and CRBS response is particularly noteworthy. The chi-square analysis indicates a robust association between these mental health conditions and CRBS responses, with significantly higher proportions of affected individuals displaying these behaviours. This finding aligns with research suggesting that mental health challenges can exacerbate the psychological impact of pandemics, leading to increased anxiety and stress responses (Brooks *et al.*,2020). The study shows high levels of depression and anxiety among PhD and undergraduate students reflecting broader trends observed in academic environments during the pandemic (Feroz *et al.*,2020).

### *Socio-demographic Variables and CRBS Status*

While most socio-demgraphic variables did not show a significant association with CRBS status, the type of family did suggest a potential trend, although

not reaching traditional levels of statistical significance. This finding could indicate varying levels of social support or communication styles within different family structures, affecting how individuals seek reassurance during health crises (Malhotra and Do, 2013). This potential association warrants further exploration to understand the dynamics of family influence on pandemic-related behaviours.

## CONCLUSION

The study concludes that the COVID-19 pandemic has led to significant behavioural and mental health changes in the participants. These girls exhibited a high prevalence of reassurance-seeking behaviour, characterized by frequent health checks and anxiety about potential infection. This behaviour was primarily driven by heightened anxiety and uncertainty about health, influenced by several sociodemographic factors such as socio-economic status, educational attainment, and family structure.

Socio-Economic factors emerged as crucial determinants, with individuals from lower Socio-Economic backgrounds showing higher CRBS (Coronavirus Reassurance-Seeking Behaviour Scale) scores, likely due to greater financial instability, limited access to healthcare, and fewer educational opportunities. Individuals with lower educational levels also demonstrated higher anxiety levels, possibly because they lacked the resources or coping mechanisms to manage stress effectively.

The study also found that mental health conditions like depression, anxiety, and stress were significantly associated with higher CRBS scores, indicating that the pandemic's psychological impact was profound among these demographics. This association was particularly strong among Ph.D. and undergraduate students, reflecting the broader trends of mental health challenges in academic environments during the pandemic.

While most socio-demographic variables did not show a significant direct association with CRBS status, family type suggested a potential influence, hinting that different family structures might affect how individuals seek reassurance during health crises. Overall, the findings emphasize the need for targeted mental health support and resources to address the psychological impact of the pandemic, especially for vulnerable groups such as these young girls in academic settings and those from lower Socio-Economic backgrounds. This approach is essential to mitigate the adverse effects of the pandemic on mental health and to promote resilience and well-being in future health crises,s as these younger generations are the core of the future population dynamic.

## ACKNOWLEDGEMENT

All procedures in this study involving human participants were conducted in alignment with the ethical standards set by the relevant institutional and national research committees, as well as the principles outlined in the 1964 Helsinki Declaration and its subsequent updates or equivalent ethical standards. Informed consent was obtained from every participant. This study received support through a Doctoral Fellowship awarded by the Indian Council for Social Science Research (File No: RFD/2022-23/GEN/ANTH/182). Sincere thanks are extended to all participants for their valuable contributions to this research.

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