

## Psychological impact of lockdown on adolescents during COVID-19 pandemic

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### ABSTRACT

More than half the world is under lockdown due to the Covid-19 pandemic. India has been under the first phase of countrywide lockdown from 24th March 2020 to 3rd May, 2020. This cross-sectional, observational study done during this period is an attempt to evaluate the psychological effect of the lockdown on urban adolescents along with the factors that are helping them to cope. A structured questionnaire including 22 questions was developed by using Google forms and was answered online by the participants. Statistical analysis was done using SPSS version 21.0. Categorical variables were presented in number and percentages. Qualitative variables were compared using Chi-Square test. A p value of <0.05 was considered significant. 48.8% of respondents acknowledged enjoying online classes while a huge 91.3% admitted missing school. Daily total screen time was however increased to greater than 4 hours for 33.1%. There was statistically significant difference in things missed by different age groups ( $p < 0.005$ ) and sexes ( $p < .001$ ). A resounding 70.9% admitted to an altered sleep pattern whereas eating pattern remained the same in 47.9%. 58.5% had cordial relations with their family members. Anxiety was most perceived by the 17-19 years group ( $p = 0.001$ ). When asked what they were most worried about, 36.2% were concerned about 'the future of the world being changed.' Music was the most opted coping technique (49.1%). This study provides invaluable information on the initial psychological response of adolescents while dealing with one of the most consequential crisis situations in the world which is still on going at the time of preparing this manuscript.

**Keywords:** *Psychological impact, Adolescents, Lockdown, COVID-19, Coping Technique*

**T**he COVID-19 pandemic has taken the whole world by a storm. More than half the world is under lockdown. Same is the case with India which has been under lockdown from 24th March, 2020 to 3rd May, 2020. 'We could never have loved the earth so well if we had had

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no childhood in it.' George Eliot said this a long time ago. Childhood however seems to have been put on hold in the lockdown periods in majority of the countries in the world to counter the spread of the Covid-19 virus currently. Schools are closed as are the playgrounds. The only contact children have with the outside world is through the internet. Online classes, gaming and social media, along with the television are increasing the screen time exponentially for our children while decreasing their normal day to day activities. This is a novel situation that has come with the novel-coronavirus. This study is an attempt to evaluate the psychological effect of the lockdown on adolescents aged 10-19 years of age along with the factors that are helping them to cope. The survey was conducted primarily on urban school children from 6th to 12th grade in India.

### METHOD AND MATERIAL

This cross-sectional, observational study was carried out in an urban setting in India. An online structured questionnaire was developed by using Google forms, with a description form appended to it. The link of the questionnaire was sent through WhatsApp to the school students of mainly two English medium schools and the participants were encouraged to roll out the survey to as many people as possible. Thus, the link was forwarded to people apart from the first point of contact and so on. On receiving and clicking the link the participants got auto directed to the information about the study. A set of several questions appeared sequentially, which the participants were supposed to answer. Identity of the participants was not divulged to the investigators.

Participants with access to internet and of age 10 to 19 years who were able to understand English and willing to participate were included. The data collection was initiated on April 18<sup>th</sup> 2020 at 11:22 PM IST and closed on April 22<sup>nd</sup> 2020 at 7:33 PM IST. The survey period corresponded to the second phase of the lockdown which was extended after April 14<sup>th</sup> 2020 up to May 3<sup>rd</sup> 2020.

The online self-reported questionnaire which included 22 multiple choice questions was developed by the investigators and contained questions related to personal demographic details, online curriculum being followed by the school, psychological effects and coping mechanisms at home during the lockdown in the pandemic.

#### *Statistical analysis*

Categorical variables were presented in number and percentage (%). Qualitative variables were compared using Chi-Square test. A p value of <0.05 was considered statistically significant. The data was entered in MS EXCEL spreadsheet and analysis was done using Statistical Package for Social Sciences (SPSS) version 21.0. Descriptive statistics have been used in the study to analyze the findings. Mean and standard deviation and proportions have been used to estimate the results of the study.

### RESULTS

An online survey, related to the psychology of urban Indian adolescents at home during the lockdown in the corona pandemic was completed by 426 students over a period of 5 days.

**Table 1** *The demographic data including age and sex of the participants, the grade to which they belonged, parent details and sleeping and eating patterns*

Age (years)		Sex		Grade		Parent details		Eating pattern		Sleep pattern	
10-12	27.7%	Male	50.2%	6-8	10.6%	Going to work place	20.9%	Binging on junk food	15%	Same as earlier	26.3%

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Age (years)		Sex		Grade		Parent details		Eating pattern		Sleep pattern	
13-16	61.5%	Female	49.3%	9-10	70.9%	Work from home	58%	Healthy food	37.1%	Has changed during lockdown	70.9%
17-19	10.8%	Other	0.5%	11-12	18.5%	At home and not working	21.1%	Same as earlier	47.9%	Can't say	2.8%

The demographic data including age and sex of the participants, the grade to which they belonged, parent details and sleeping and eating patterns are presented in Table 1. Data of siblings, availability of high-speed internet and online classes are presented in Table 2.

**Table 2 Respondent details about siblings, high speed data**

	Siblings	Access to high speed internet	Online classes
Yes	77.2%	77.6%	95.1%
No	22.8%	22.4%	4.9%

Drawing from the data given in Table 2, more than three quarters of the participants availed high speed internet facility and 95.1% were attending online classes. Of them, 48.8% acknowledged enjoying these online classes. However, total screen time spent online on classes/social media/watching shows was greater than 4 hours in 33.1%, 2 - 4 hours in 36.9% and 0-2 hours in 30% of the respondents (Figure 1a). An increase in screen time was observed as the age increased ( $p = 0.0008$ ). 71.19% of the 10-13 years age group spent less than 4 hours on screen in contrast to 56.52% of the 17-19 years age group who spent more than 4 hours screen time. ( $p \text{ value} < 0.05$ ) (Figure 2). A huge percentage of participants (91.3%) admitted missing school (Figure 1b) even though 32.2% reported enjoying being at home at the same time. The one activity they missed most during the lockdown was meeting friends (52.6 %) followed by “going to school” (15.7%) and “outdoor sports” (13.4%) (Figure 1c). Of the 52.6% who missed meeting friends, 60.87% belonged to the 17-19-year age group and of the 15.7% who missed going to school, maximum (21.19%) belonged to the 10-13 years age group. In comparison to females, males missed outdoor sports (22.43% vs 4.29%) while females missed meeting their friends more (59.52% vs 45.79%). Hence, there was statistically significant difference in things that were missed by different age groups ( $p < 0.005$ ) and sexes ( $p < .001$ ).

A resounding 70.9% (302 participants) admitted to an altered sleep pattern. Eating pattern during the lockdown remained the same in 47.9% and only 15% admitted to bingeing on junk food (Table 1).

Majority (82.9%) enjoyed the time spent with family. However, the incidence was more in the 10-13 years age (85.59%) as against 69.57% in 17-19 years (Figure 3). 51.2% did accept helping parents. Only 5.4% respondents said that they did not help their parents in household work while 43.4% responded as “sometimes”. A positive observation was that 58.5% had cordial relations with their family members and only 7.3% indulged in frequent fights. The relations were comparatively more cordial in the 10-13-year age group (65.25%) while the 17-19 year reported a higher incidence of frequent fights (13.04% vs 4.24%) (Figure 4). No significant gender difference was noted. Music was a unanimous choice among adolescents as the most opted coping technique (49.1%) followed by exercise (32.2%) and dancing (13.6%). Yoga and meditation were not popular choices of coping in

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any age group (Figure 1d). While dancing was preferred by females (23.3%), males selected exercises (41.12%) as a coping technique ( $p < 0.0001$ ). Music was most popular in the 17-19 years (56.52%) while dancing was preferred by the 10-13 years (20.34%). Amongst other coping mechanisms were chatting with friends (46%), hobbies (35.4%), grandparents (10.1%) and pet (8.5%). (Figure 1e). It is noteworthy that chatting with friends was more reported by females (49.52% vs 42.52% in males) and by the 17-19 years (60.87%) as against 40.68% among 10-13 years. An interesting observation was that approximately 80% of respondents were worried about the current COVID 19 situation and reported 3 and above on a scale of 1 to 5 (1 being 'not worried at all' and 5 being 'doomsday feeling') with a statistically significant difference amongst the genders ( $p$  value 0.009) (Figure 1f). About 52.3% reported feeling bored primarily whereas 23.7% were not affected by the recent developments (Figure 1g). Anxiety was most perceived by the 17-19 years (19.57% vs 6.49% in 14-16 years vs 1.69% in 10-13 years,  $p = 0.001$ ). Similarly, anxiety was most reported by females as compared to males (9.52% vs 3.74%,  $p < 0.0001$ ) When asked what they were most worried about, 36.2% were concerned about "the future of the world being changed". 27.5% were worried about losing touch with friends, 21.4% were worried about routine school studies whereas 7.5% each were worried about their career and loss of a dear one (Figure 1h). There was statistically significant difference between the age groups regarding this response ( $p = 0.002$ ). While all the three age groups had almost similar concerns about "the future of the world being changed," the 14-16 years worried most about the "missing the routine school studies" and the 17-19 years were concerned most about "career being jeopardized". No significant difference was however observed on the basis of gender ( $p = 0.289$ ).

## DISCUSSION

Adolescence is the period ranging from 10 to 19 years and is one of the critical transitions in the lifespan that occurs after childhood and before adulthood. (1). Adolescents are vulnerable to psychosocial dysfunction when they suffer from physical injuries, psychological trauma, or major changes in their environments. (2). The worldwide lockdown is a novel situation for the children that has come with the novel-coronavirus. Our children including the adolescents are the most active group in society. They are literally in a no school and no play situation with only online classes for school and online contact with their friends in the name of any recreation.

This study has shown that there was increase in the screen time exposure in all age groups and it was higher as age increased. Screen time of more than 1 hour /day has been shown to be associated with lower psychological well-being, including less curiosity, lower self-control, more distractibility, more difficulty making friends, less emotional stability, being more difficult to care for, and inability to finish tasks. (3). Poor health outcomes such as obesity and lack of exercise have also been documented. (4). Even though the lockdown period is somewhat similar to homeschooling practice there is added stress to children in the present situation. Different studies have shown different results when the psychological evaluation was done in homeschooled children. Hill et al (5) observed that there was less social engagement amongst homeschooled children whereas another study by Kunzman and Gaither (6) observed that they have similar social skills as their non homeschooled peers.

As has been observed in the survey, the activity missed most by the older adolescents (age 17-19 years) was "meeting friends. As children get older and more socially adept, their peer group becomes the more important focus of their social development than their immediate family. (7) A higher incidence of fights was observed in the older adolescents as compared

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to the 10-13 year age group. Some conflict with parents can be regarded as a normal part of family relations during adolescence. Developmental changes in parent–child relationships have been attributed to adolescents’ biological or cognitive maturation. Hormonal changes related to puberty are thought to lead adolescents to strive for autonomy and individuation from parents. (8). Interestingly, almost 80% of respondents were worried about the current COVID 19 situation and reported 3 and above on a scale of 1 to 5. Belinda Lane et al (9) observed that the fear of unknown along with tendency toward global responses in self-generated fears appeared to encompass the majority of specific death-related fears included in the fear schedule. ‘Anxiety’ as the uppermost feeling was more in the female gender, as shown in our survey. Also, majority are concerned about the “future of the world being changed” whereas the older adolescents were particularly worried about their career being jeopardized. The reality we all are facing is a world that none of us, especially younger people, have ever experienced before and they are as worried about it as adults.

Currently, there is no known information on the psychological impact of lockdown on adolescents during the times of COVID 19. If the world has learnt anything during this pandemic, it is that morbidity and mortality are only a part of this crisis. With a panic-struck economy, national lockdown, travel restrictions, Coronavirus has come out as a once-in-a-generation disaster to traumatize every domain of human life. And though this trauma has spared the young physically, it may fall hard on them psychologically. While adolescents grapple with their much lonelier new normal, it has become even more pertinent to help them navigate through these uncharted waters at a time when uncertainty surrounds this outbreak of such unparalleled magnitude.

Since the aim of our survey was to evaluate the psychological impact of lockdown in adolescents, we opted for an online survey given the limited resources and time sensitivity. Only 12.5% Indian students have internet access at home. There is an urban-rural divide with 27% having access in urban areas and only 5% in rural areas. Our study population consisted mainly of urban adolescents and is not a true reflection of the views of the general population. Furthermore, it would be ideal to conduct a prospective study on the same group of participants after this episode is over. Due to ethical consideration of anonymity and confidentiality, we did not collect contact details and personal information of respondents due to which a prospective study for comparison will not be possible. Notwithstanding, this study provides invaluable information on the initial psychological response of adolescents while dealing with one of the most consequential crisis situations in the world which is still on going at the time of preparing this manuscript.

### CONCLUSION

While tackling the pandemic and preventing its further spread is most vital, the psychological impact of isolation and loneliness cannot be under-estimated either especially in the vulnerable adolescents. Developing effective interventions against COVID 19 is a priority but consideration of mental health can widely contribute to limit the long-term effects of the current crisis.

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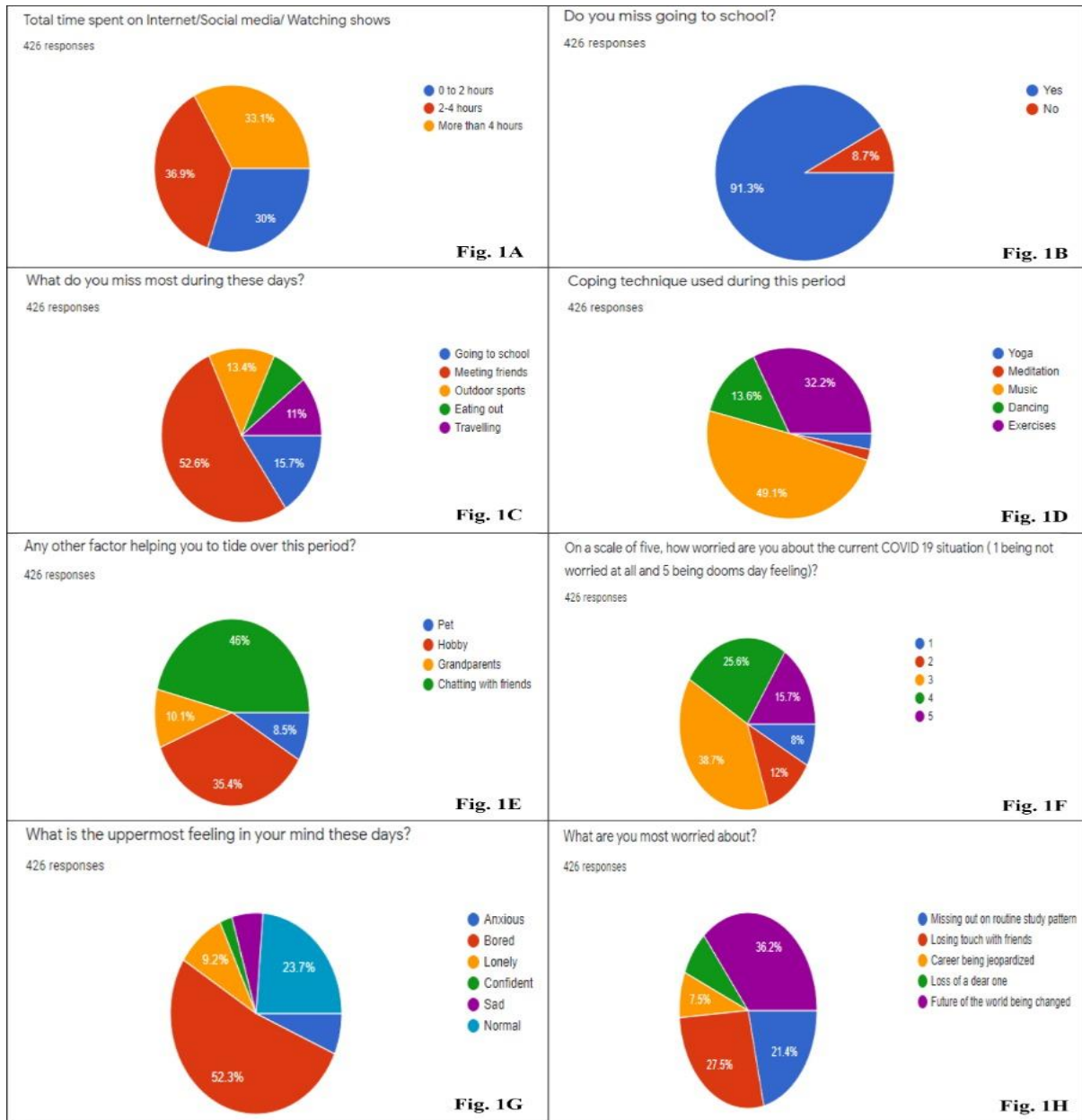
### **Conflict of Interest**

The author declared no conflict of interest.

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**APPENDIX**



**Figure 1: The pie charts represent the following:** Total time spent on Internet/social media/ watching shows (a). ‘Do you miss going to school’ (b). ‘What do you miss most during these days?’ (c). ‘Coping technique used during this period’ (d) Any other factor helping you tide over this period (e). ‘On a scale of 5, how worried are you about the current COVID 19 situation?’ (f) ‘What is the uppermost feeling in your mind these days?’ (g) ‘What are you most worried about?’ (h)

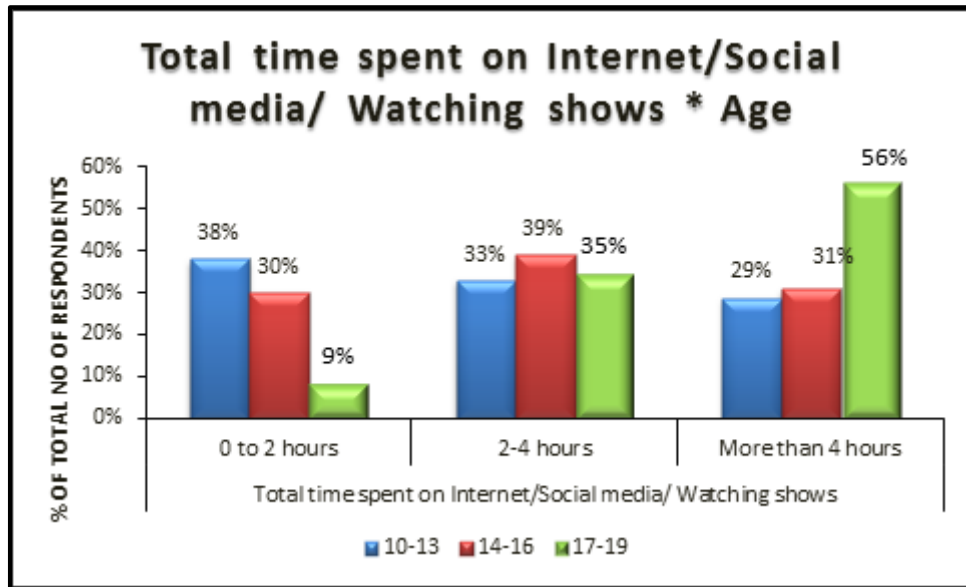


Figure 2: The bar graph depicts the ‘total time spent on Internet/social media/watching shows’ in the various age groups. An increase in screen time was observed as the age increased ( $p= 0.0008$ )

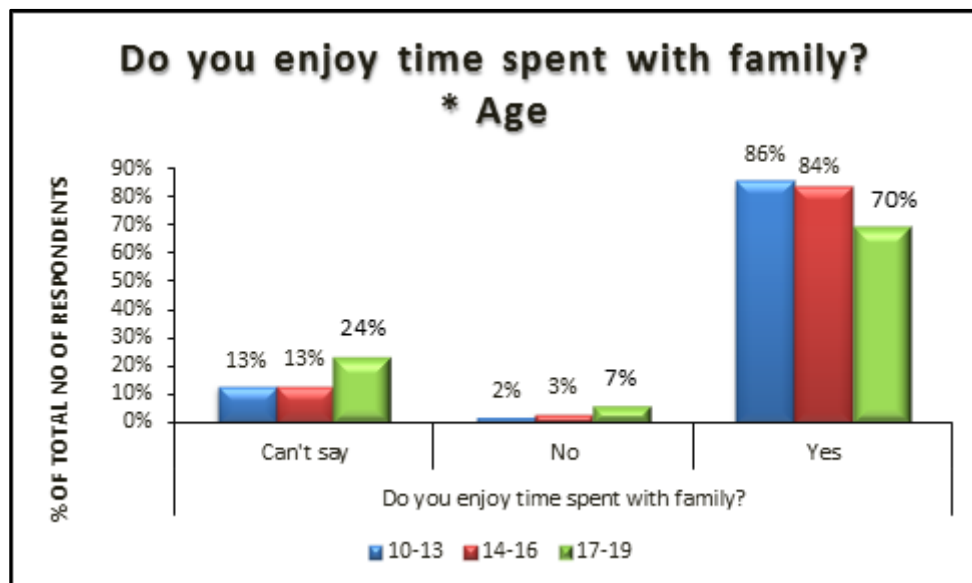
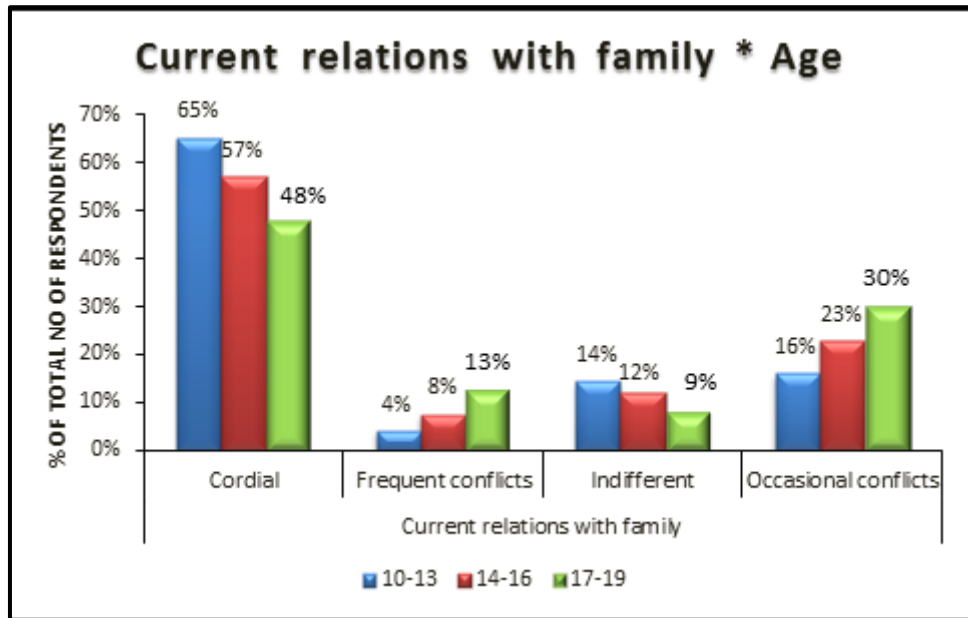


Figure 3: The bar graph depicts ‘do you enjoy time spent with family’ in the various age groups. The incidence was more in the 10-13 years age as compared to 17-19 years.





**Figure 4:** The bar graph depicts the current relations with the family in the various age groups. The relations were comparatively more cordial in the 10-13 year age group while the 17-19 year reported a higher incidence of frequent conflicts.