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Original Research Article

Adolescent well-being during the COVID-19 pandemic in India

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ABSTRACT

Background: It is without question that gender attitudes/norms, voice and agency, self-efficacy, and locus of control are important determinants of health and well-being, particularly for adolescent girls and boys in low to middle income countries. And, while prior to the COVID-19 pandemic, there were trends suggesting social inequities would be on the decline, these trends have since reversed due to abrupt long-term school closures as a result of the pandemic. This study examines adolescents' perceptions of gender norms/attributes, voice/agency, self-efficacy, locus of control, and gender-based violence norms pre-COVID and one year later during the COVID-19 pandemic and subsequent lockdown in India, a country with one of the largest adolescent populations worldwide.
Methods: The data for this study were derived from a larger study via two cross-sectional self-reported survey of adolescents ages 10-15 years old in public schools located in Delhi, India (urban), and Uttar Pradesh, India (rural) pre-COVID and one year later. The adolescent participants were part of local existing after-school programs and interventions implemented by non-profit community organizations, and a convenience sample (n=547) was recruited.
Results: The present study found that positive gender attributes, positive gender norms, GBV norms, voice, and locus of control all worsened between the two time periods-pre-COVID-19 and one year later during the height of the COVID-19 pandemic.
Conclusions: As India looks ahead to rebuilding after the pandemic, it will be imperative that attention is paid to gender perceptions and attitudes, empowerment, and family/gender violence as a result of the short and longer impact of COVID-19.

Keywords: Gender attributes, Gender norms, Voice, Agency, Adolescents, India

INTRODUCTION

Globally, there are more adolescents (ages 10-19 years) in the world than ever before; accounting for one-sixth of the global population or a total of 1.2 billion individuals.[1] This number is expected to rise through the next three decades, particularly in low-to-middle income countries. India, in particular, is home to the largest population of adolescents and young adults in any country worldwide, accounting for one-fifth (or 20%) of its current total population.[2] It is imperative that countries invest in adolescents, a pivotal developmental time in a person's life course, as investments in health and education in particular are catalytic in launching adolescents into adulthood, ensuring they are healthy and educated which ultimately leads to better health outcomes for families and communities and successful advancement in workplace.

Biologically, adolescence is a period of rapid growth, a period of developmental growth that also includes the understanding of social, cultural, and gender norms, and is a transition period from when many young boys and girls go from socio-economic dependence to relative independence.[3,4] It is also a time when health behaviours are acquired that are largely influenced by gender norms and one's voice and agency, constructs that are formed

during adolescence.[5] In India, adolescent girls in particular represent nearly 11% of the population, and it is during this adolescent period when significant physical and biological growth occurs. However, restrictions on freedom of movement, lack of representation and agency, and deeply entrenched gender norms exacerbate the inequities adolescent girls face, often forcing them to drop out of school, enter into child marriage and early motherhood, presenting barriers to their health and well-being, labour force participation, and economic advancement. Therefore, it is crucial to address gender norms, agency and voice to ensure healthy adolescent development who will become healthy adults.

Gender norms are defined as characteristics that men and women possess which govern their behaviour in relation to culturally shared expectations. Voice, the capacity to speak up and be heard, and agency (sometimes referred to as empowerment), the capacity to make decisions about one's own life and act on them, are instrumental in improving the health and wellbeing of women, families, and communities.[6-8] Adolescents become increasingly aware of the expectations they must fulfil as a man and or a woman and face increasing pressure to conform to the appropriate roles of society.[9,10] However, it is hypothesized that by changing gender attitudes and perceptions of gender norms among adolescent boys and girls the health and well-being of adolescent boys and girls can be improved in both the short-and-long term.[10] In addition, increasing voice and agency to allow adolescents to participate in decision making abilities and speak up about their life decisions has also been shown to be instrumental in improving the health of adolescents.[6]

In 2019, prior to the COVID-19 pandemic, India ranked 125 on the gender inequality index out of 159 countries, a reflection of the gender-based discrimination that girls and women face throughout their lifespan, as evidenced with disparities in secondary education, employment, health, violence, and safety.[10,11] While there is awareness on issues on how gender norms and voice and agency impact health outcomes, there is limited interventions and programs focused on gender sensitization during adolescence.[12] Then, in March 2020, the novel coronavirus (COVID-19) pandemic disrupted the lives of everyone globally, impacting nearly 150 million children and adolescents who were affected by the abrupt school closures.[13,14] While both boys and girls were impacted by these school closures, there was much concern that the long-term effects of school closures would impact that of girls a lot more. Based on previous outbreaks, it has been noted that prolonged school closures and lockdowns exacerbated gender inequalities including education, gender-based violence, child marriage, unintended pregnancies and early transitions into the workforce.[15] In a recent study conducted by Zulaika et al adolescent girls in Kenya who remained out of school for longer than six months due to the COVID-19 outbreak, twice as likely to become pregnant and three times as likely to drop out of school than those girls that graduated prior to 2020.[16]

While it may take many years, and many studies to fully understand the sequelae of the COVID-19 pandemic in India (and around the world), prior research shows a consistent link to the pandemic and inequalities when it comes to girls and women. It is evident that experiences from pandemics and large-scale crises often affect men and women differently. Specifically, for adolescents who are learning to manage developmental growth focusing on social, cultural and gender norms. Further, with such a large population of adolescents in India, understanding the impact of the pandemic is even more critical. Prior to COVID-19, inequalities in nutrition, education, health-care access, economic opportunities, and exposure to violence existed, however, there were trends of more adolescent girls attending higher education and, therefore, suggesting social inequities would be on decline.[17] With the pandemic, however, these trends have reversed and problems faced by adolescent girls have been magnified.

This manuscript examines adolescents' perceptions of gender norms/attributes, voice/agency, self-efficacy, locus of control, and gender-based violence norms pre-COVID and one year later during the COVID-19 pandemic and subsequent lockdown in Delhi and Uttar Pradesh India. The findings from this study will assist community leaders and policy-makers in creating targeted interventions and programs to ensure that adolescent boys and girls emerge from the pandemic healthy, educated, and empowered.

METHODS

Study sample

The data for this study were derived from a larger study via two cross-sectional self-reported survey of adolescents ages 10-15 years old in public schools located in Delhi, India (urban), and Uttar Pradesh, India (rural) pre-COVID (January 2020) and one year later (February 2021). The adolescent participants were part of local existing after-school programs and interventions implemented by non-profit community organizations (Navsrishti working in Narela community of Delhi, and Gramin Purnanirman Sansthan program working in Azamgarh, Uttar Pradesh), and a convenience sample was recruited. To participate in this study, adolescents had to be between the ages of 10 and 15 years of age and have participated in either of the aforementioned programs. The sample size (n=547) was based on a covariance analysis by gender and location, and the expected prevalence of COVID-related variables. The study sample includes a total of 61% female adolescents and 39% male adolescents (Table 1). The gender distribution of girls is lower in the pre-COVID sample (58.74% vs 63.31%) but independent samples t-test suggested no significant difference in gender between the two time points. The mean age in the pre-COVID and COVID samples had a non-significant difference of 0.3 years (12.5 vs 12.2 years). The last sample measure is the distribution between the rural (Uttar Pradesh) and urban (Delhi)

locales. The distribution in the pre-COVID sample for the urban population (Delhi) is 61.71%, while the COVID sample is more equal with the urban population representing 50.36% of the sample. However, independent samples t-test revealed no significant differences. Since there were no significant differences between the demographic characteristics in the sample, it was assumed 2 samples were comparable for analyses.

Survey measures

The survey instrument included a total of 68-items collecting data on participants' sociodemographic characteristics, school and household environment, relationships with friends and family, gendered experiences, and perceptions of those experiences. Thirty-three of the survey items specifically asked participants to respond to a series of questions by rating on a 4-point Likert-type scale whether they strongly disagree or strongly agree with the items. Survey items were newly developed or adapted from publicly available, validated instruments with scales measuring components of voice and agency, as well as gender norms and attributes, such as the gender equitable measurement scale created for the gender equity movement in schools program in Mumbai, India, the UNICEF evaluation of empowering young girls and women in Maharashtra, India, the gender equitable men scale from the compendium of gender scales, and the girl rising India schools campaign evaluation.[12,18,19] A previous manuscript describes in detail the development of the seven scales used in the present analysis: gender attributes, voice, gender norms, agency, GBV norms, self-efficacy, and locus of control.[6] Development of these scales included formative qualitative research, face validity testing, and exploratory/confirmatory factor analysis. The seven scales are defined as follows:[6]

Table 1: Scales.

Factors	Definition
Gender attributes	A direct comparison between boys and girls in which boys are considered to be superior to girls.
Voice	The capacity to speak up and be heard.
Gender norms	Culturally shared expectations about the characteristics that men and women should possess and how they should behave. This includes socially acceptable rules about roles, traits, behaviours, and power associated with masculinity and femininity in a culture.
Agency	Empowerment and the capacity to make decisions about one's own life and act on them.
GBV norms	Experiences of social norms regarding physical and/ or sexual abuse of girls and women.
Self-efficacy	Perceptions on one's ability to organise, perform, and accomplish a given behaviour.

Each scale includes the following statements:

Gender attributes

Boys are better at math and science than girls, since girls have to get married, they should not be sent for higher education, girls cannot do well in math or science, boys are naturally better at sports than girls, only men should work outside of the home, a wife should always obey her husband.

Voice

I feel comfortable expressing my opinions to my mother, I feel comfortable expressing my opinions to my father, I can convince others of what I believe in, I feel comfortable expressing my opinions to my teacher, I feel comfortable expressing my opinions to people that are my age, I feel comfortable expressing my opinions during class discussions, my parents will decide when I should get married.

Gender norms

Boys should get health services over girls, boys should go to school over girls, boys should be fed before girls during meals.

Agency

Girls should choose on their own when to marry, I will decide when to get married, I will decide when to get married, boys should choose on their own when to marry, girls should be able to choose to work after marriage to earn money.

GBV norms

It is a girl's fault if a male student harasses her, it is a girl's fault if a male teacher harasses her.

Self-efficacy

I feel comfortable starting a conversation with a girl I don't know very well, I feel comfortable starting a conversation with a boy I don't know very well.

Locus of control

Most of the time, I have little to say about what my parents decide for me, there are times when a husband or boy needs to beat his girlfriend or wife

Data analysis

Univariate analyses were conducted to examine frequencies and distributions of the study variables of interest. Chi-square tests were conducted to examine bivariate relationships between the COVID survey

questions and gender as well as geographic location. This study was reviewed and approved by the George Washington university internal review board (IRB #191568) (Table 2).

Table 2: Sample characteristics for pre-COVID and COVID samples, (n=547).

Variables	Total, (n=547)	Pre-COVID (January 2020), (n=269)	COVID (February 2021), (n=278)
Gender (n, %)			
Female	334 (61.06)	158 (58.74)	176 (63.31)
Male	213 (38.94)	111 (41.26)	102 (36.69)
Age (years) (Mean, SD)	12.4 (1.4)	12.5 (1.4)	12.2 (1.4)
Location (n, %)			
Rural-UP	241 (44.06)	103 (38.29)	138 (49.64)
Urban-Delhi	306 (55.94)	166 (61.71)	140 (50.36)

Note: There are no significant differences in the values for the two samples.

RESULTS

Table 3 shows the difference in means for the seven scales examined between the pre-COVID and COVID time periods. There were significant changes in five of the seven scales between the two time points. There was a significant difference in the gender attributes scale with a decrease in the mean by 0.64 points. The voice scale was significantly different at the two time points, with the mean score lower by 0.22 points during COVID. There was a significant difference in the gender norms scale with a decrease in the mean by 0.36 points during COVID. The agency scale was not significantly different at the two points. There was a significant difference in the gender-based violence scale with a decrease in the mean by 0.23 points. The self-efficacy scale was not significantly different at the two points. The locus of control scale was significantly different at the two points, with the mean score lower by 0.12 points during COVID (Table 3).

Figure 1 illustrates the changes and significance of the scale differences between pre-COVID and COVID timepoints differentiated by gender. In all the scales with significant differences, the mean scores reduced from the pre-COVID to the COVID timepoint. For boys, there were significant differences ($p<0.05$) in the gender attribute scale (2.69 vs 1.92), voice scale (2.69 vs 2.36), and locus of control (2.16 vs 2.01). For girls, there were significant differences in more of the scales including the gender attributes scale (2.47 vs 1.92), voice scale (2.69 vs 2.54), gender norm scale (2.19 vs 1.68), gender-based violence scale (1.89 vs 1.59), and locus of control (2.05 vs 1.96) (Figure 1).

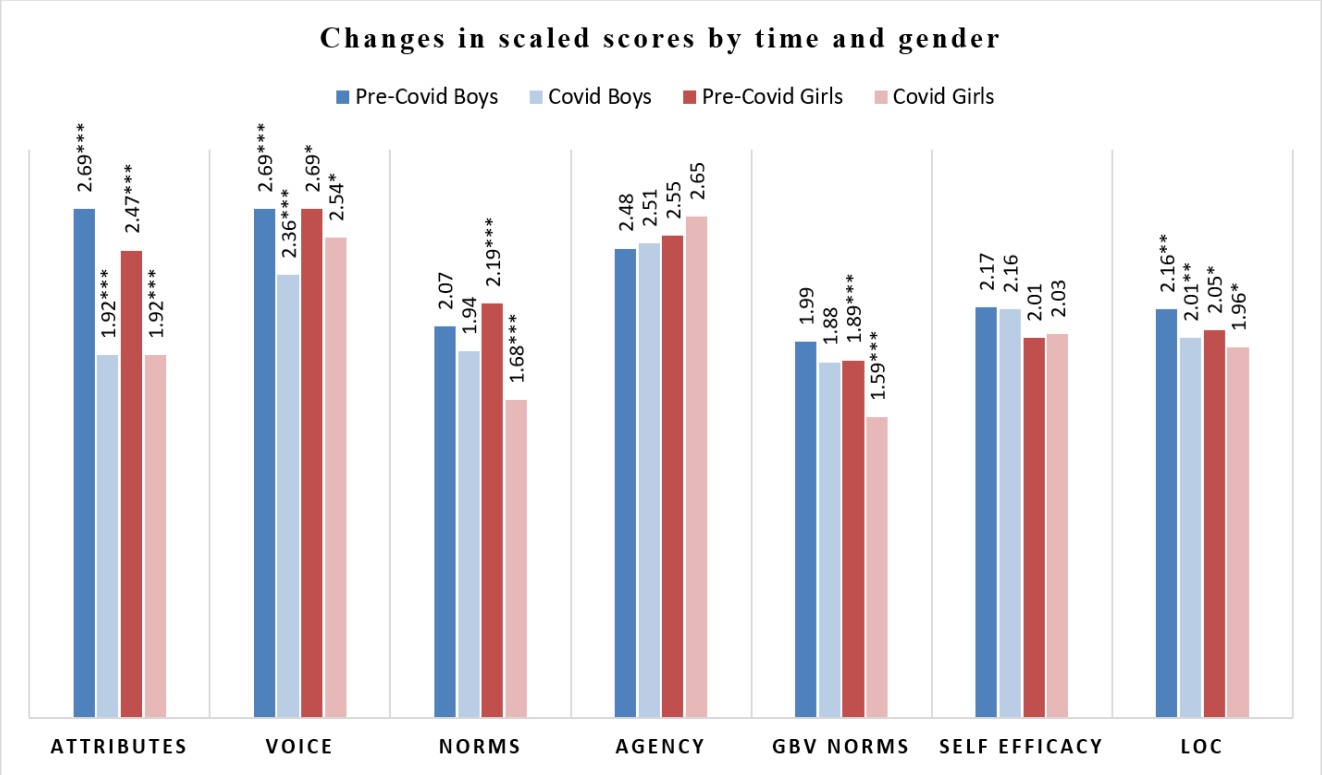

Figure 1: Changes in scaled scores by time and gender.

Significance: *p<0.05, **p<0.01,***p<0.001.

Table 3: Differences in scales by pre-COVID and COVID time points.

Mean scale score	Pre-COVID, (n=269)		COVID, (n=278)		P value
	Score	Cronbach's α	Score	Cronbach's α	
Gender attributes	2.56	0.73	1.92	0.79	<0.001
Voice	2.69	0.82	2.47	0.63	<0.001
Gender norms	2.13	0.52	1.77	0.54	<0.001
Agency	2.52	0.69	2.60	0.46	0.211
GBV norms	1.93	0.62	1.70	0.37	<0.001
Self-efficacy	2.08	0.75	2.08	0.34	0.987
Locus of control	2.10	0.70	1.98	0.02	<0.001

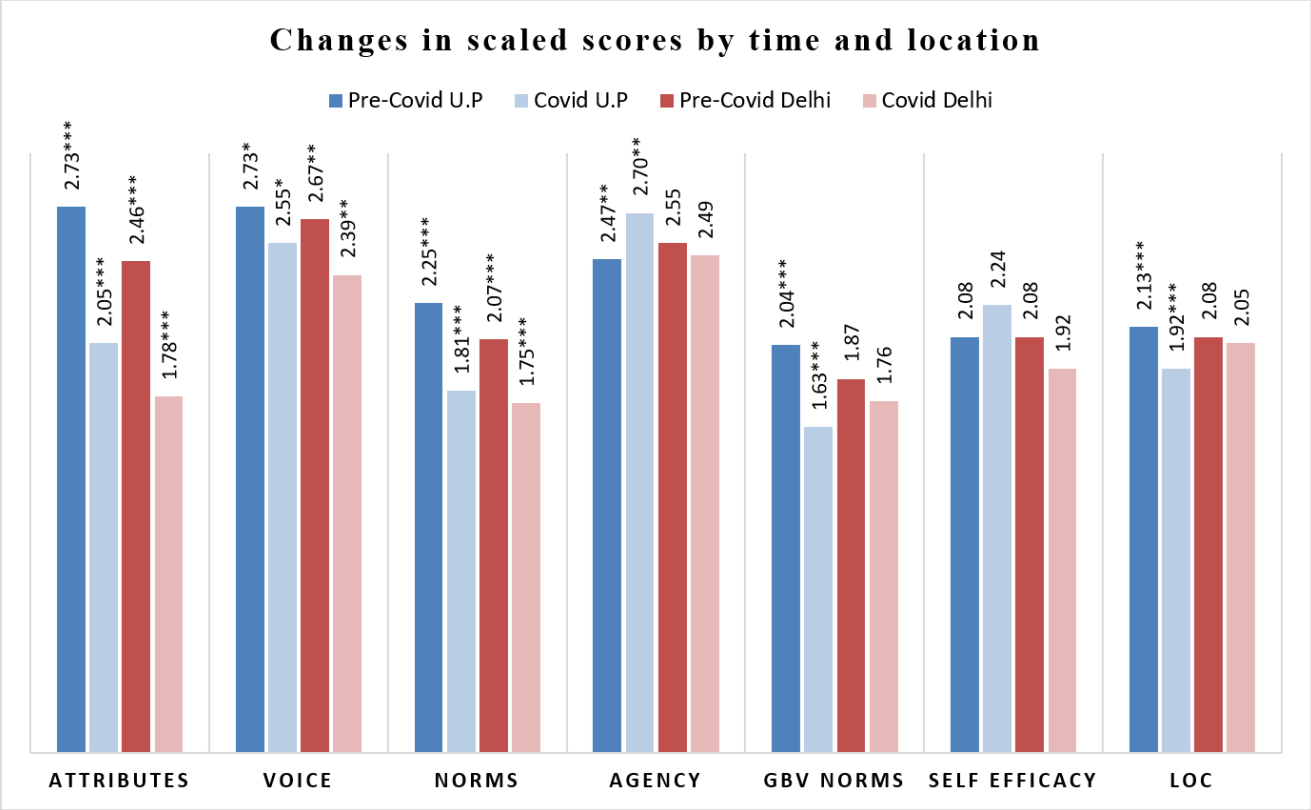

Figure 2: Changes in scaled scores by time and location.

Significance: *p<0.05, **p<0.01,***p<0.001.

Table 4: Multivariate regression for each scale as the dependent variable and time point as the main independent variable.

Variables	Attributes	Voice	Gender norms	Agency	GBV Norms	Self-efficacy	LOC
COVID year	-0.69***	-0.22***	-0.38***	0.09	-0.26***	0.00	-0.11***
Female	-0.18**	0.06	-0.10	0.09	-0.21**	-0.19*	-0.08*
Age (Years)	-0.05*	0.02	-0.03	0.05*	-0.07**	0.02	0.00
Rural (U. P.)	0.35***	0.08	0.17*	0.00	0.13	0.18*	-0.03

Significance: *p<0.05, **p<0.01,***p<0.001.

Figure 2 illustrates the changes and significance of the scales between the pre-COVID and COVID timepoints differentiated by location i.e., urban and rural. The urban locale is Delhi, and the rural locale is the state of Uttar Pradesh (U. P). In all the scales with significant differences except for one, the mean scores reduced from the pre-COVID to the COVID timepoint. For Uttar Pradesh, there were significant differences (p value of<0.05) in the gender attribute scale (2.73 vs 2.05), voice scale (2.73 vs 2.55), gender norms scale (2.25 vs 1.81), agency scale (2.47 vs 2.70, the only significant increase), gender-based violence scale (2.04 vs 1.63), and locus of

control (2.13 vs 1.92). For Delhi, there were significant differences in fewer scales than in Uttar Pradesh including the gender attributes scale (2.46 vs 1.78), voice scale (2.67 vs 2.39), and gender norm scale (2.07 vs 1.75) (Figure 2).

Table 4 shows the results of the multivariable regressions that were run for each of the scales with the timepoint of COVID as the primary independent variable and female sex, age, and rural location as covariates. The timepoint in the COVID year was highly significant in the gender attributes, voice, gender norms, gender-based violence, and locus of control scales after controlling for the demographic variables. The gender attribute scale had a significant 0.69-point decrease in the COVID timepoint, a significant 0.18-point decrease for girls, a significant 0.05-point decrease for one year increase in age, and a significant 0.35 increase in the rural locale. The voice scale had a significant 0.22-point decrease in the COVID timepoint, but the rest of the independent variables were not significant in their changes. The gender norms scale had a significant 0.38-point decrease in the COVID timepoint and significant 0.17 increase in the rural locale, with the rest of the independent variables being not significant. The agency scale had a significant 0.05-point increase for one year increase in age with the main independent variable of timepoint and other covariates being not significant. The gender-based violence scale had a significant 0.26-point decrease in the COVID timepoint, a significant 0.21-point decrease for girls, a significant 0.07-point decrease for one year increase in age, and no significance for location differences. The self-efficacy scale had a significant 0.19-point decrease for girls, and a significant 0.18 increase in the rural locale, but the primary independent variable of timepoint and age showing no significance. The locus of control scale had a significant 0.11-point decrease in the COVID timepoint and a significant 0.08-point decrease for girls with age and location being not significant shown in the Table 4.

DISCUSSION

It is without question that gender attitudes/norms, voice and agency, self-efficacy, and locus of control are important determinants of health and well-being, particularly for girls and women in countries across South Asia. It is also well documented that these perceptions and attitudes begin to form and take hold throughout the adolescent developmental period.[21] Across low and middle income countries, including India, there has been a growing number of programs and interventions targeting these perceptions and attitudes in an effort to improve health and educational outcomes during and after adolescence.[10,12,16,20] Investing in building positive and equitable gender attitudes, and growing voice, agency, self-efficacy and locus of control are key mechanisms to ensuring that adolescents eventually become educated, healthy, and prosperous adults.[9,23,24]

The findings of this study are especially useful as the world moves out of the peak and deadliest phase of the COVID-19 pandemic. Although many hypothesized that the pandemic would have devastating effects on adolescents given lockdowns, social distancing, school closures, and limited mobility, very few studies have documented how the pandemic has impacted young people. The present study found that positive gender attributes, positive gender norms, GBV norms, voice, and locus of control all worsened between the two time periods-pre-COVID-19 and one year later during the height of the COVID-19 pandemic. However, agency and self-efficacy did not change significantly during this time period. Certainly, these findings are not surprising given adolescents were isolated and at home during school closures leaving them without peer and teacher interactions who are often positive role models and influencers in an adolescent's life. In low-middle income countries, schools often play an even greater role in an adolescent's life by providing a safe and nurturing environment nutritionally, emotionally, and developmentally. And it is often in the school setting that programs and interventions are delivered to improve gender equitable norms and empowerment.[6,10,12]

Of particular importance is the changes in GBV norms between pre-COVID and COVID. Adolescents held more negative GBV norms over the course of the pandemic year. Early on in the pandemic, much attention was paid to how lockdowns and social distancing would heighten family violence and GBV. According to a report from Plan International, violence against girls themselves was accelerated during the pandemic, and they were also more likely to witness violence in the home e.g., fathers abusing their mothers.[20] These experiences often result in decreased social-emotional well-being which will inevitably have a long-term impact on adolescents as they transition into adulthood, and will likely increase the likelihood that they will experience violence as adults themselves.[25,26]

Across all significant changes in the gender perceptions and empowerment scales, adolescent girls experienced greater decreases than adolescent boys. It is possible that during COVID-19 gender roles became more prominent in the household and community. Traditionally adolescent girls did more household chores than boys, and that responsibility likely increased as girls were home during school closures. The constant and heightened exposure to gender roles in the household may be one reason equitable gender attributes and norms decreased during the COVID-19 pandemic.

There are limitations to this study. These data are from two cross-sectional samples and therefore cannot imply causal inferences. Further, the data were self-reported and attempted to measure gender perceptions and empowerment constructs among adolescents which is both challenging and new. Given the data collection challenges during the COVID-19 pandemic, adolescent

participants completed the surveys via "paper/pencil" and were not in a structured school environment but gathered in their communities and neighborhoods with local community-based organizations and research staff. Traditional paper surveys do not easily allow for low literacy and audio capabilities, and therefore it is possible that there were comprehension challenges. Further, paper surveys do not readily allow for privacy which may have also led to biased responses. Despite these limitations, these findings provide insights into the experiences of adolescents during COVID-19, and these findings cannot be understated given the significant gains that have been made for adolescents, especially girls, in South Asia.

CONCLUSION

Although COVID-19 is a less severe disease for adolescents, the short- and long-term impact of the COVID-19 pandemic cannot be overstated. The pandemic led to significant emotional and developmental changes that affect the short-and long-term health and well-being of adolescents. As India looks ahead to rebuilding after the pandemic, it will be imperative that attention is paid to gender perceptions and attitudes, empowerment, and family/gender violence.

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