Research Paper

Exploring Emotional Regulation and Resilience in Adolescents: A Post-Pandemic Scenario

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ABSTRACT

The Covid-19 pandemic unfolded worldwide and had a profound impact across geography, economics, and social-emotional trajectories. Global medical collaboration has led to control of the pandemic, but disruptions have affected different age groups variedly. Facing sudden alterations to the curriculum, an overnight shift to online teaching-learning, disruptions to social life and daily routines, and dealing with boredom and loneliness, adolescents have particularly struggled to cope with the aftermath of a global health crisis. Currently, there is limited research that has sufficiently explored adolescents' capacity to cope in the face of this adversity, the risk, and protective factors that may underlie coping behaviour. Thus, it is important to understand the social-emotional status of the adolescent age group and the measures that will foster their holistic well-being. This quantitative research study investigates the relationship between emotional regulation and resilience among adolescents in the post-pandemic scenario. Self-report measures of adolescents (11-19 years; M=15.35 years) from Mumbai & Bengaluru (India), on the Difficulties with Emotional Regulation Scale-Short Form (DERS-SF, 2015) and the Brief Resilience Scale (BRS, 2008), were utilized for this purpose. Results of the study indicated that students experiencing greater difficulties with emotional regulation reported a lower level of emotional resilience. This research study will also strive to recommend appropriate interventions that can assist stakeholders in supporting and promoting positive, healthy outcomes for adolescent wellbeing.

The COVID-19 pandemic has had a comprehensive and intense global impact and a significant period will be required to fully gauge the repercussions of the pandemic on diverse areas of daily functioning. The lockdowns during the COVID-19 pandemic disrupted every facet of life, resulting in physical, social, psychological, health, and economic consequences. These disruptions have affected different developmental age groups variedly. This study focuses on the adolescent age group (10-19 years) which experienced significant mental health challenges during this unprecedented period of world events.

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Challenges experienced by adolescents during and post-pandemic

During the pandemic, adolescents experienced a wide range of mental health challenges. Türk et al. (2021) reported that adolescents who used avoidant behavioural patterns and negative coping strategies experienced higher levels of depression and anxiety. Increased social media usage, low-level educational qualifications of parents, and living with separated parents also contributed to mental health challenges. A systematic review and meta-analysis conducted by Ma et al. (2021) explored the prevalence of mental health concerns during the COVID-19 pandemic. They revealed that depression and anxiety were more prominent in adolescents as compared to children, with females exhibiting higher prevalence, followed by sleep disorder and post-traumatic stress symptoms. Recent research suggests an increase in the intensity of depression, anxiety, social anxiety symptoms, and difficulties in familial interaction; a reduction in school and peer-related challenges were observed (Caqueo-Urízar et al., 2023)

Emotional Regulation in adolescents during and post-pandemic

Emotional regulation refers to managing and responding to emotions effectively (Rolston & Lloyd-Richardson, n.d.). Emotion regulation (ER) is often defined as the ability to monitor, evaluate, and modify emotions that arise following a stimulus, and respond to them adaptively. This ability refers to a set of processes that people use to modulate, consciously or not, their emotional states to respond to environmental requests in an adaptive way (Hen et al., 2022). In times of crisis such as COVID-19, emotional regulation would very likely play a key role in the quality of mental health. Research indicates that the lockdown of COVID-19 generated unprecedented stress, due to which adolescents faced difficulties regulating their emotions; a lack of knowledge of adequate psychological strategies resulted in engaging in deliberate self-harming (Robbilard et al., 2021). Furthermore, lack of social support, parental supervision, and non-acceptance of emotions by adolescents resulted in challenges in the recognition and expression of emotions among adolescents diagnosed with Internet addiction (Karaer & Akdemir, 2019). Adolescents exposed to online risks, namely cyber victimization, during COVID-19 displayed lower emotional self-efficacy beliefs and ruminated on negative emotions (Schunk et al., 2022). Post-pandemic, a tailored and sustained support program will be required for adolescents to readjust and fill the gaps in learning and social engagement.

Resilience in adolescents during & post-pandemic

The widely studied psychological concept of Resilience is deemed to be critical in preventing the onset of mental health problems as well as reducing the severity of existing ones. Whilst resilience has evolved in its definition and a wide gamut of studies vary in their representation of this complex construct, the American Psychological Association (2017) defines resilience as "the process of adapting well in the face of adversity, trauma, tragedy, threats, or significant sources of stress — such as family and relationship problems, serious health problems, or workplace and financial stressors." According to Lee et al. (2013), resilience can be grouped into two perspectives: *resilience as a trait* vs. *resilience as a developmental process*. Resilience as a trait is seen as the ability to 'bounce back' while resilience as a developmental process is seen as dynamic and ongoing where individuals adapt successfully in the context of significant adversity. Within this view, resilience changes over time and is influenced by protective factors (Mestre et al., 2017).

However, the COVID-19 pandemic posed an existential threat that challenged the protective factors considered vital for overcoming setbacks. Recent evidence suggests that resiliency levels before COVID-19 were significantly associated with decreased depression and

anxiety. Additionally, the research also reported a reduction in adolescents' resilience and mental health after the lockdown (Shi et al., 2022). Altundağ, Y. & Altundağ, S. (2021) in their research found a significant negative relationship between the fear of COVID-19 and resilience, religiosity, and age with females having lower scores on resilience and religiosity than males. The relationship between the COVID-19 pandemic and the virtual world has been widely discussed and debated, and the long-term implications extend far beyond that of Zoom calls. Gopffarth et al. (2022) explored the contribution of the digital world in building resilience among teenagers during COVID-19. Findings indicated that the virtual world provides teenagers, who are digital natives, with novel tools which have assisted in building different social environments and enhanced social resilience.

Emotional Regulation and Resilience
The above research studies strongly indicate that emotional regulation and resilience are two significant protective factors in managing psycho-social setbacks and adversities. Other research has explored their relationship and found that during the pandemic, the presence of resilience and emotional regulation strategies together had a positive effect in reducing the symptoms of mental health issues such as anxiety, fear, depression, and insomnia. Additionally, it also resulted in improving the psychological well-being of the frontline workers in the healthcare sector (Sheykhangafshe et al., 2021). Resilience was also observed to function as a mediator between test anxiety and emotional regulation for university students (Lui et al., 2021). Alternately, emotional regulation was discovered to be a predictor of resilience in a sample of 164 high school adolescents from suburban schools in Spain (Mestre et al., 2017). The ability to self-regulate behaviour is one of the most important protective factors of resilience. Artuch-Garde et al. (2017) have cited specialized research in the area of resilience where self-control (control of thoughts, emotions, impulses, and behaviour) encourages positive adaptation, and successful self-regulation acts as a predictive factor of resilience.

Currently, there is limited research that has expansively explored adolescents' capacity to cope in the face of overwhelming adversities like the COVID-19 pandemic, and the risk and protective factors that may underlie this coping behaviour under such extremely stressful conditions.

The present study attempts to address these concerns in the backdrop of the pandemic through the following research question: *Do adolescents who self-regulate effectively exhibit greater emotional resilience?*

Thus, the objective of the current research study is to explore the relationship between emotional regulation and resilience in adolescents in the post-pandemic scenario. Additionally, the study will also explore the relationship of resilience with six domains of Emotional Regulation - non-acceptance of emotional responses, difficulty engaging in goal-directed behaviour, impulse control difficulties, limited access to emotion regulation strategies, lack of emotional clarity, and presence of emotional awareness.

The null hypothesis states that there will be no relationship seen between emotional regulation and emotional resilience among adolescents in the research sample. The proposed alternative hypothesis states that adolescents with greater difficulties in emotional self-regulation will exhibit lower emotional resilience. Thus, there will be a negative relationship seen between Difficulties in Emotional Regulation and Emotional Resilience among the research sample of adolescents.

METHODOLOGY

Sample

The research study participants were fifty-three adolescents, located across the metro cities of Mumbai and Bengaluru, India who voluntarily participated in the study. The participants were between 11-19 years of age with 52.8% of participants comprising females (N=28), and 47.1 % of males (N=25). Of the total study sample, 62 % (N=33) of participants were students in schools and 37% (N=20) were studying in Higher Education Institutions (HEI).

Demographic information about each of the 53 student participants is provided in the Appendix. Following the norms of the research guidelines and ethics, basic demographic information has been provided.

Research Variables

Independent Variable (IV): Emotional Regulation. The difficulties in emotional regulation experienced by the sample as per assessment scores on the Difficulty in Emotional Regulation Scale-Short Form (DERS-SF), Kaufman et al. (2015).

Dependent Variable (DV): Emotional Resilience. The resilience of the sample participants as per assessment scores on the Brief Resilience Scale (BRS), Smith et al. (2008).

Data Collection Tools

Emotional Regulation was measured by the **Difficulties in Emotional Regulation Scale-Short Form (DERS-SF),** (Kaufman et al., 2015)
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The Difficulties in Emotional Regulation Scale (DERS-SF) an 18-item, 5-point Likert scale was developed to assess issues with emotional regulation among adolescents and adults. The scale comprises 6 sub-scales namely- non-acceptance, goal-directed behaviour, impulse control, regulation strategies, clarity, and awareness. Higher scores reflect greater difficulties with emotional regulation. The awareness subscale is reverse-coded.

Resilience was assessed using **The Brief Resilience Scale (BRS),** (Smith et al., 2008). The Brief Resilience Scale (BRS) assesses the ability of the individual to 'bounce back' from stress. The 5-point Likert scale consists of 6 items and includes a combination of positively (1,3,5) and negatively worded (2,4,6) statements. The higher the score, the greater the psychological resilience.

Research Design

The current study adopted a correlational research design with an aim to investigate the association between the research variables of Emotional Regulation (IV) and Emotional Resilience (DV).

Sampling Procedure

A Convenience sampling method was utilized for this research study.

Data Collection

Data was collected via a Google Form or in person, subject to student availability. The purpose and the scope of the study were explained to the participants and their consent was achieved before administering the scales.

Data Analysis

Research data was analyzed using the deductive approach. This approach aims towards developing a hypothesis, testing it, and examining the outcomes. Quantitative data was collected via the above-mentioned scales administered to each participant. A Pearson correlation coefficient was computed to determine whether there is a linear relationship between Difficulties in Emotional Regulation and Resilience. IBM's SPSS version 29.0 was utilized for the analysis of the obtained data.

RESULTS

The current research study was conducted to explore the relationship between the variables of emotional regulation and resilience in adolescents in the post-pandemic scenario. For this purpose, data was gathered using the Difficulties in Emotional Regulation Scale-Short Form (DERS-SF) and Brief Resilience Scale (BRS); mean scores for each of these scales were calculated for each participant. A Pearson correlation coefficient was computed to determine whether there is a linear relationship between the two variables.

Table 1: Descriptive Statistics of research variables

	Mean	**N**	**Std. Deviation**
Resilience	2.9364	53	.64858
Difficulties in Emotional Regulation	2.8242	53	.70045

As can be seen from the above table, the mean score of the participants on the variable of Resilience was found to be 2.9364; for the variable of Difficulties in Emotional Regulation, the mean score was 2.8242. The Standard Deviations were found to be .64858 and .70045 for the two variables respectively.

*Table 2: Correlation values between research variables*

		Resilience	**Difficulties in Emotional Regulation**
Resilience	Pearson Correlation	1	-.612[**]
	Sig. (1-tailed)		<.001
	N	53	53
Difficulties in Emotional Regulation	Pearson Correlation	-.612[**]	1
	Sig. (1-tailed)	<.001	-
	N	53	53

**. Correlation is significant at the 0.01 level (1-tailed).

The results of the Pearson correlation indicated that there was a significant, negative correlation between Difficulties in Emotional Regulation and Emotional Resilience among adolescents, r = (-0.61; $p < 0.01$). Therefore, greater difficulties in emotional regulation are seen to be significantly associated with lower levels of emotional resilience in this sample of adolescents.

Findings are represented via a scatter plot. Figure 1 indicates the mean scores of the variables of Resilience and Difficulties in Emotional Regulation for the sample of 53 participants.
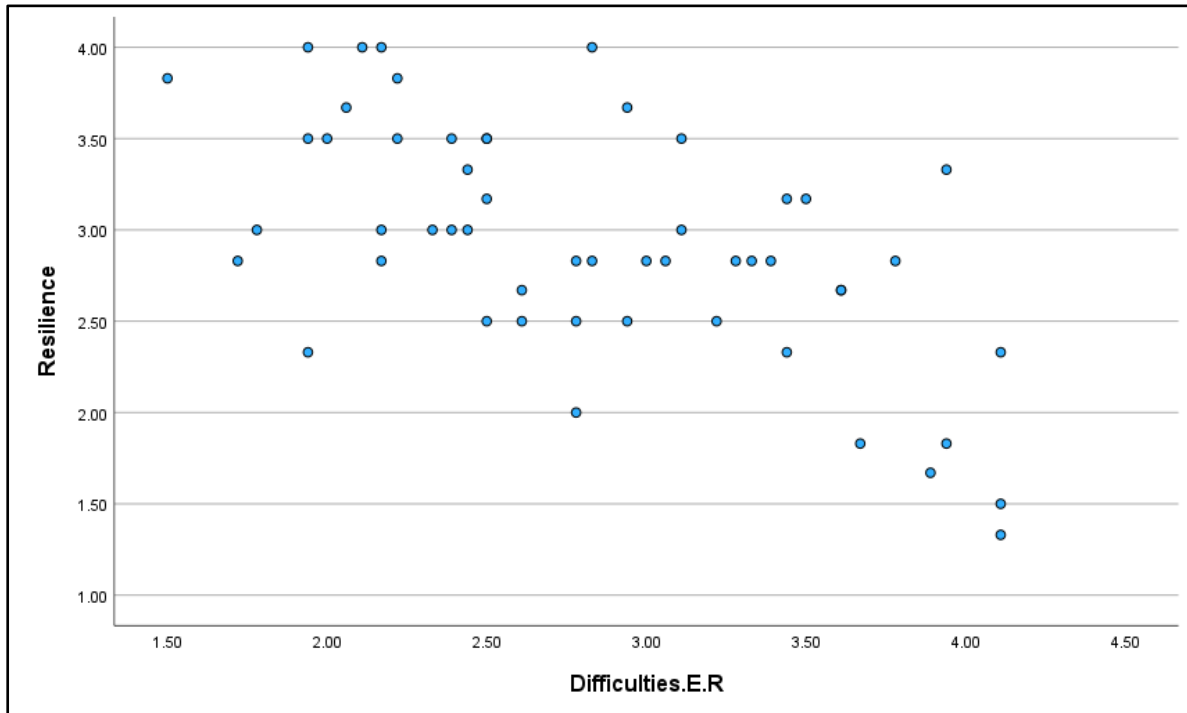
Figure 1: Resilience and Difficulties in Emotional Regulation

As seen from the above scatterplot, the two research variables show a negative correlation. Furthermore, the study also explored the ancillary data. This data aimed at exploring the relationship of resilience with six domains (subscales) of Difficulties in Emotional regulation- reduced emotional clarity, difficulty engaging in goal-directed behaviour, impulse control difficulties, non-acceptance of emotional responses, limited emotion regulation strategies, and emotional awareness. The last-mentioned subscale of emotional awareness is reverse coded and indicates the presence of emotional awareness (rather than difficulty with it).

Table 3: Descriptive Statistics of ancillary research variables (sub-scales of DERS-SF)

	Mean	**N**	**Std. Deviation**
Clarity	2.7547	53	.98751
Goals	3.3647	53	1.25818
Impulse	2.3583	53	1.21589
Non-Acceptance	2.5474	53	1.13981
Strategies	2.6098	53	1.04995
Awareness	3.3147	53	.94201

As can be seen from the above table, the mean score of the participants ranges from 2.3583 to 3.3647 on the six domains of Difficulties in Emotional Regulation, respectively. The Standard Deviations range from. .94201 to 1.25818 respectively.

Table 4: Correlation between subscale domains of Emotional Regulation and Resilience

		Clarity	Goals	Impulse	Non-Acceptance	Strategies	Awareness
Resilience	**Pearson Correlation**	-.490**	-.552**	-.438**	-.351**	-.662**	.250*
	Sig. (1-tailed)	<.001	<.001	<.001	<.005	<.001	<.005
	N	53	53	53	53	53	53

*. Correlation is significant at the 0.05 level (1-tailed).
**. Correlation is significant at the 0.01 level (1-tailed).

According to Table 4, the results of the Pearson correlation indicate as follows:
A significant negative correlation is seen between the subscale of *emotional clarity* and emotional resilience, r = (-0.49, *p* <.01). Therefore, greater difficulties with emotional clarity is significantly associated with lower levels of emotional resilience in adolescents.

A significant negative correlation is seen between the subscale of *goal-directed behaviour* and emotional resilience, r = (-0.55, *p* < .01). Therefore, greater difficulties with goal-directed behaviour are significantly associated with lower levels of emotional resilience in adolescents.

A significant negative correlation is seen between the subscale of *impulse control difficulties* and emotional resilience, r = (-0.43, *p* <.01). Therefore, greater difficulties in impulse control are significantly associated with lower levels of emotional resilience in adolescents.

A significant negative correlation is seen between the subscale of *non-acceptance of emotional responses* and emotional resilience, r = (-0.35, *p* <.05). Therefore, non-acceptance of emotional responses is significantly associated with lower levels of emotional resilience in adolescents.

A significant negative correlation is seen between the subscale of *limited emotion regulation strategies* and emotional resilience among adolescents, r = (-0.66, *p* <.01). Therefore, limited emotion regulation strategies are significantly associated with lower levels of emotional resilience in adolescents.

A positive correlation is seen between the subscale of *awareness* of emotional self-regulation and emotional resilience among adolescents, r = (0.25, *p* <.05). Therefore, higher scores, i.e., a better awareness of emotional self-regulation is positively correlated with higher emotional resilience (and vice versa) in adolescents. This sub-scale is the only positively worded sub-scale among the six subscales and is reverse coded. A higher score on this subscale is indicative of fewer difficulties in emotional regulation.

DISCUSSION

The objective of the current research study is to explore the relationship between emotional regulation and resilience in adolescents in the post-pandemic scenario. A Pearson correlation coefficient was computed to determine whether there is a linear relationship between resilience and difficulties in emotional regulation. The research findings, which support the Alternative hypothesis, revealed that there was a negative relationship between difficulties in

emotional regulation and emotional resilience among adolescents. Similar results have been found in previous research. A recent study revealed the association of resilience and emotional regulation as protective factors during COVID-19, whilst another study indicated that students with lower resilience experienced higher levels of depression, anxiety, and insomnia. When explored together, individuals with higher levels of emotional dysregulation experienced higher levels of depression, insomnia, and lower levels of well-being (Renati et al., 2023., Rufino et al., 2022).

The ancillary data (from the DERS-SF subscales) is in accordance with research literature which indicates adverse mental health challenges in adolescents followed by difficulties with emotional regulation during the pandemic (Hen et al., 2022). Lydon-Staley et al. (2019) examined the emotion network density, which indicates the level of interdependence among emotional starters in adolescents over time, where a higher density suggests rigidity in emotional functioning. Findings indicated that non-acceptance of emotions (a subscale of DERS-SF) was positively correlated with emotion network density. Gökçen et al. (2020) in their research found a significant negative relationship between patience and difficulty in regulating emotions among adolescents. When problematic social media usage (PSMU) and its relationship with emotional regulation was explored in adolescents, the results indicated that PSMU contributed to difficulties with impulse control and goal-directed behaviour (Wartberg et al., 2021). A safe learning environment, with a balance between clearly defined boundaries and compassion, fosters active participation in the learning process. Resourceful schools can foster holistic well-being and contribute to individual development through multiple factors. Adolescents who felt supported and received exposure to school resources post-pandemic, tend to display higher levels of self-control and lower levels of engagement in internet gaming and victimization (Xiang et al., 2022).

Findings from the present research study contribute significantly to understanding the relationship between emotional regulation difficulties and resilience in adolescents in the post-pandemic environment. However, there are a few limitations. The entire research sample was an urban-based population, and thus not wholly representative. The N of female participants was greater than that of males. Gender as a variable was not explored in this study. Furthermore, the participants came from diverse socio-economic strata and educational institutions; this made it difficult to understand the specific type and quality of support (emotional, social, and financial) that each student might have received from their family, as also the academic-social-emotional support in the respective schools. However, this very limitation can be the starting point for further research-based inquiry.

CONCLUSION

In light of the findings of this study, a variety of implications arise for all stakeholders-teachers, therapists, school management, and parents. This research can be instrumental in empowering school counsellors with intervention program building in the area of emotional and behaviour management with a focus on self and social awareness, coping skills and social skills. A whole school approach to resilience building, emotional self-regulation, and social-emotional learning by creating and implementing a curriculum via well-being/life-skills classes can be adopted. Group therapy sessions with a focus on mindfulness, self-regulation, and relationship management can be tremendously beneficial for adolescents in the long term. In order to improve the relationship between the teacher-student and parent-child dyads, training programs with a focus on emotional intelligence can be developed for stakeholders. Continuation of facilities to provide preventive mental health services via the practice of Teletherapy by relevant professionals is required.

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Conflict of Interest
The author(s) declared no conflict of interest.