Research Paper

Self-Esteem, Emotional Regulation and Resilience in Adolescents: A Correlational Study

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ABSTRACT: *Adolescence represents a critical juncture in the developmental span marked by substantial physical and emotional transformations. During this period, individuals undergo profound developmental processes, encompassing forming their identity, establishing social relationships, and navigating diverse challenges. Nurturing self-esteem, cultivating resilience, and honing emotional regulation skills have emerged as crucial factors in developing and sustaining optimal mental health and well-being. Currently, limited indigenous research is available that has comprehensively explored the significance of these constructs in understanding the social-emotional dynamics and promoting psychological health within the adolescent age group. The current quantitative research study investigates the relationship between self-esteem, emotional regulation, and resilience. Self-report measures of 60 adolescents (M=29, F=31) aged 11-19 yrs (M=15.33 yrs), from Mumbai & Bengaluru (India), on the Rosenberg Self-Esteem Scale (RSE, 1979), Difficulties with Emotional Regulation Scale-Short Form (DERS-SF, 2015) and the Brief Resilience Scale (BRS, 2008) were utilised for this purpose. The results indicated a positive correlation between self-esteem and resilience; a significant negative correlation was observed between self-esteem and difficulties with emotional regulation. The results suggest that students with higher self-esteem showed higher levels of emotional resilience and fewer difficulties with emotional regulation. Additionally, this study aims to provide stakeholders with strategic recommendations that can assist in developing and promoting critical measures for healthy social-emotional development of adolescents.*
KEYWORDS: *Self-Esteem, Emotional Regulation, Resilience, Adolescents.*

I. INTRODUCTION

In the broader context of growth and human development, adolescence is often seen as a time of transition characterised by significant physical, cognitive, emotional, and social changes. These various transformations create an environment rich with both opportunities and challenges. However, the challenges adolescents face due to these changes can negatively impact their overall well-being. This study focuses on adolescents aged 11-19 years and examines important factors related to mental health and well-being, as well as preventive and support measures.

1.1 Challenges experienced by adolescents

During the transition from childhood to adulthood, adolescents encounter numerous psychological challenges, such as mood swings, the quest for personal identity, and the desire for independence. According to Lawrence and Adebowale (2022), adolescence is marked by curiosity, openness to new experiences, and a strong urge for independence, which may leave young people susceptible to various risks and psychological hurdles. Issues of self-identity, body image, and the pressure to conform often trouble adolescents. Furthermore, academic stress, peer relationships, and family conflicts can exacerbate their anxiety. Social exclusion or rejection may even lead to depression and aggressive behaviour in certain situations (Killen et al., 2012). The family structure significantly influences the emotional and psychological well-being of adolescents. Bista et al. (2016) discovered that living with a single parent was associated with higher levels of psychosocial problems among adolescent students compared to those living with both parents.

1.2 Self-Esteem and Emotional Regulation in Adolescents

Emotional regulation is often defined as the ability to recognise, evaluate, and manage emotions triggered by a stimulus and to respond constructively. This capacity encompasses various strategies that individuals typically use, consciously or unconsciously, to regulate their emotional states, allowing them to adapt flexibly to environmental demands (Hen et al., 2022).

During challenging periods like adolescence, the ability to regulate emotions significantly impacts the overall mental well-being of young individuals. A recent study investigated the connections between emotional regulation, aggression, and self-esteem in adolescents who had experienced sexual abuse. The findings revealed that these adolescents struggled to control their emotions and exhibited higher levels of self-harm thoughts and behaviours. Additionally, their self-esteem was lower compared to non-abused adolescents (Uzun et al., 2023).

Another study explored the role of trauma during adolescence or adulthood and its effects on emotional regulation and self-esteem. The findings indicated a negative relationship between challenges in emotional regulation and self-esteem (Antunes et al., 2021). It was found that university students with better emotional regulation tend to have higher self-esteem and life satisfaction (Gul, 2014).

Furthermore, effective management of emotions has been identified as enhancing self-esteem and enabling individuals to respond adaptively to stressful situations (Mouatsou & Koutra, 2021).

1.3 Self-Esteem and Resilience in Adolescents

Resilience is widely studied in psychology as a crucial factor in preventing negative mental health and reducing their severity. The definition of resilience varies across studies. According to the American Psychological Association (2017), resilience is "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 issues, or workplace and financial stressors."

Liu et al. (2021) investigated the relationship between self-esteem, common mental health problems, and the mutual influences of self-esteem and resilience during early adolescence. The results showed that self-esteem and common mental health problems negatively impact each other, while self-esteem and resilience have a positive interaction. Balgiu (2017) examined the association between personality traits, self-esteem, and resilience in a subset of the emerging adult population, specifically emerging adult students. The findings indicated a positive correlation between resilience and both self-esteem and extraversion, along with a negative association with neuroticism.

Research indicates that screen time and social media usage significantly impact mental health. For individuals with low resilience and self-esteem, the impact on mental health is more pronounced. In adolescents, excessive screen time increases the risk of depressive symptoms, with self-esteem and resilience partially mediating this link (Lin et al., 2023; Yu et al., 2023).

Adak and Sarkar (2021) examined gender differences in self-esteem, resilience, and the variations of locus of control. The results showed a positive relationship between self-esteem and resilience, with males demonstrating higher resilience levels than females.

II.   AIMS & HYPOTHESES

Presently, there is limited indigenous research inquiry investigating the mental well-being of adolescents with a specific focus on self-esteem, resilience and emotional regulation. The current research study thus aims to probe the interrelationships between self-esteem, difficulties in emotional regulation, and resilience in adolescents aged 11-19 years. Additionally, it will also explore how resilience is linked to emotional regulation.

The study proposes two null hypotheses to explore the potential relationships:

1) H_{01} - There will be no relationship between self-esteem and difficulties in emotional regulation.
2) H_{02} - There will be no relationship between self-esteem and emotional resilience.

The study also proposes two alternative hypotheses to explore the potential relationships:

1) H_{a1} - There will be a negative relationship between self-esteem and difficulties in emotional regulation among adolescents, i.e. adolescents with lower self-esteem will exhibit greater difficulty in emotional regulation.
3) H_{a2} - There will be a positive relationship between self-esteem and emotional resilience among adolescents, i.e. adolescents with higher self-esteem will exhibit greater emotional resilience.

III. METHODOLOGY

3.1 Sample

This research was conducted with sixty adolescents from Mumbai and Bengaluru, India, who participated voluntarily. The age range was 11-19 years. The gender composition of the cohort was 51.6% females (N=31) and 48.3 % males (N=29). Of these, 61.6 % (N=37) were enrolled in school and 38.3% (N=23) in Higher Education Institutions. Demographic details for all 60 participants are included in Appendix 1, adhering to research guidelines and ethical standards.

3.2 Research Variables
- Independent Variable (IV):
  - Self-Esteem. As a measure of self-esteem, the participants filled out the Rosenberg Self-Esteem Scale (RSE), Rosenberg, M. (1965).
- Dependent Variable (DV):
  - Emotional Regulation. The difficulties in emotional regulation were assessed using the Difficulty in Emotional Regulation Scale-Short Form (DERS-SF), Kaufman et al. (2015).
  - Emotional Resilience. This variable was measured using the Brief Resilience Scale (BRS), by Smith et al. (2008).

3.3 Data Collection Tools
1. Self-Esteem was measured using the **Rosenberg Self-Esteem Scale** (RSE, 1965). The Rosenberg Self-Esteem Scale (RSE) was originally designed for high school students but later adapted for diverse groups, including adults, with specific norms for each. This 10-item, 4-point Likert scale combines positive items (1, 2, 4, 6, 7) and negative items (3, 5, 8, 9, 10) statements, offering a balanced evaluation of global self-worth. Higher scores indicate greater self-esteem.
2. Emotional Regulation was assessed using the **Difficulties in Emotional Regulation Scale- Short Form (DERS-SF)**, (Kaufman et al., 2015). This 18-item Likert scale measures emotional regulation challenges in adolescents and adults. It comprises six subscales: non-acceptance, goal-directed behaviour, impulse control, regulation strategies, clarity, and awareness. Higher scores indicate greater emotional regulation difficulties except for the awareness subscale, which is reverse-coded.
3. Resilience was assessed using **The Brief Resilience Scale (BRS),** (Smith et al., 2008). This scale gauges an individual's ability to bounce back from stress using a 5-point Likert scale with 6 items, including positive (1, 3, 5) and negative statements (2, 4, 6). A higher score indicates higher psychological resilience.

3.4 Research Design

In this study, a correlational research design was used to investigate the relationship between the research variables: Self-esteem (IV), Emotional Regulation (DV), and Emotional Resilience (DV).

3.5 Sampling Procedure

The research study utilised a Convenience sampling method.

3.6 Data Collection

Data was gathered online via a Google Form or in person, depending on student availability/access. The participants were informed about the purpose and scope of the study, and their consent was acquired before administering the tools.

3.7 Data Analysis

The research data was analysed using a deductive approach involving hypothesis development, testing, and outcome examination. Quantitative data from the scales was collected from the participants and analysed to explore the relationship between the variables using a Pearson Correlation Coefficient in IBM's SPSS version 29.0.

IV. RESULTS

This study aimed to investigate the relationship between self-esteem, difficulties in emotional regulation, and resilience in adolescents. Data collected using the Rosenberg Self-Esteem Scale (RSE), Difficulties in Emotional Regulation Scale-Short Form (DERS-SF), and Brief Resilience Scale (BRS) for the three variables were analysed. Mean scores and standard deviations were calculated. A Pearson correlation coefficient was implemented to assess the linear relationship between the variables.

In Table 1, the participants had a mean Self-esteem score of 17.1, a mean score of 2.82 for the variable of Difficulties in Emotional Regulation (DER) and a mean Resilience score of 2.92. The Standard Deviations for these variables were 5.24, 0.66 and 0.62 for the three variables, respectively.

	N	Mean	Std. Deviation
Self-esteem	60	17.1	5.24873
Difficulties in Emotional Regulation	60	2.8257	0.66912
Resilience	60	2.9267	0.62568

Table 1: Descriptive Statistics of Research Variables

The Pearson correlation in Table 2 below indicates a significant negative relationship between Self-Esteem and Difficulties in Emotional Regulation among adolescents (r = -.51; $p < 0.01$). This indicates lower levels of self-esteem to be significantly associated with greater difficulties in emotional regulation (and vice versa) in this adolescent sample.

		Self-Esteem	Difficulties in Emotional Regulation
Self-Esteem	Pearson Correlation	1	-.516**
	Sig. (2-tailed)	-	.000
	N	60	60
Difficulties in Emotional Regulation	Pearson Correlation	-.516**	1
	Sig. (2-tailed)	.000	-
	N	60	60

** Correlation is significant at the 0.01 level (2-tailed).

Table 2: Pearson Correlation values between research variables of Self-esteem and Difficulties in Emotional Regulation (DER)

The scatterplot below in Figure 1 demonstrates a negative correlation between the research variables of Self-esteem and Difficulties with Emotional Regulation (DER).
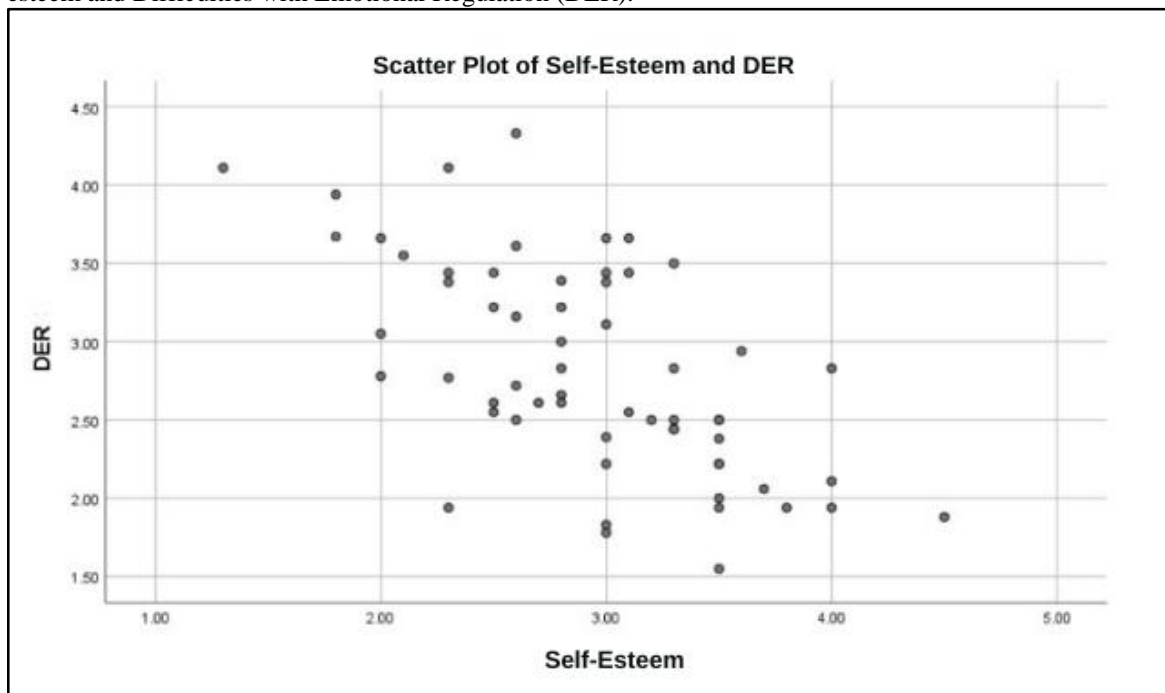

Figure 1: Self-Esteem and Difficulties in Emotional Regulation (DER)

The results of the Pearson correlation in Table 3 below indicate a positive relationship between Self-esteem and Resilience among this sample of adolescents, thus indicating that higher self-esteem was associated with increased emotional resilience. However, this correlation did not show statistical significance (r = .20; $p > 0.01$).

		Self-Esteem	Resilience
Self-Esteem	Pearson Correlation	1	.201
	Sig. (2-tailed)	-	.124
	N	60	60
Resilience	Pearson Correlation	.201	1
	Sig. (2-tailed)	.124	-
	N	60	60

Table 3: Pearson Correlation values between research variables of Self-esteem and Resilience

The scatterplot below in Figure 2 demonstrates a positive relationship between the two research variables of Self-esteem and Resilience.
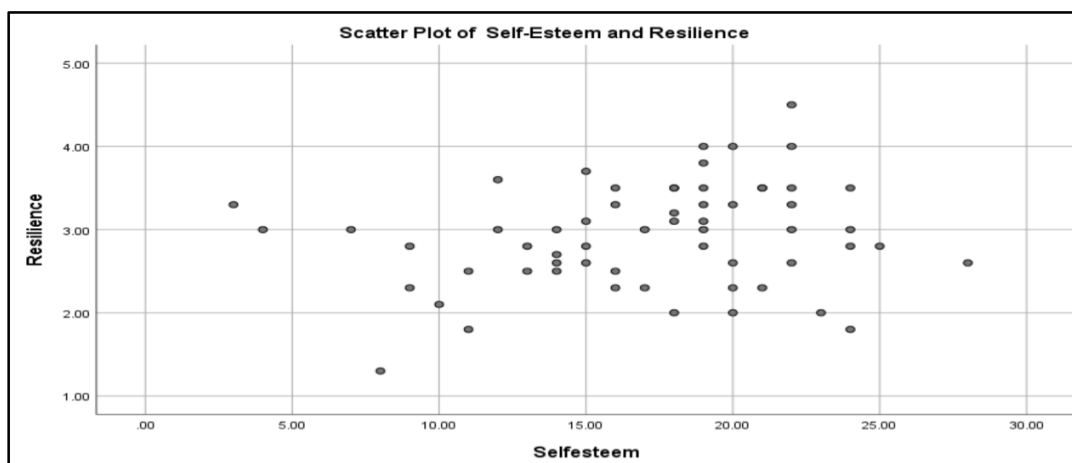

Figure 2: Self-Esteem and Resilience

The study also reports findings from the ancillary dataset of the relationship between the variables of Resilience and Difficulties with Emotional Regulation (DER).
Below, in Table 4, the participants had a mean resilience score of 2.92 and a mean score of 2.82 for the variable of Difficulties in Emotional Regulation. The corresponding Standard Deviations were 0.62 and 0.66 for the two variables respectively.

	N	Mean	Std. Deviation
Resilience	60	2.9267	0.62568
Difficulties in Emotional Regulation	60	2.8257	0.66912

Table 4: Descriptive Statistics of Resilience and Difficulties in Emotional Regulation (DER)

The Pearson correlation in Table 5 given below revealed a significant, negative relationship between Resilience and Difficulties in Emotional Regulation among adolescents (r = -.62; $p < 0.01$). This indicates that lower levels of resilience are significantly associated with greater difficulties in emotional regulation (and vice versa) in this adolescent sample.

		Resilience	Difficulties in Emotional Regulation Scale
Resilience	Pearson Correlation	1	-.623**
	Sig. (2-tailed)	-	.000
	N	60	60
Difficulties in	Pearson Correlation	-.623**	1

Emotional Regulation Scale	Sig. (2-tailed)	.000	-
	N	60	60

** Correlation is significant at the 0.01 level (2-tailed)

Table 5: Pearson Correlation values for ancillary dataset of Resilience and Difficulties in Emotional Regulation (DER)

The scatterplot below in Figure 3 demonstrates a negative correlation between the two ancillary research variables.
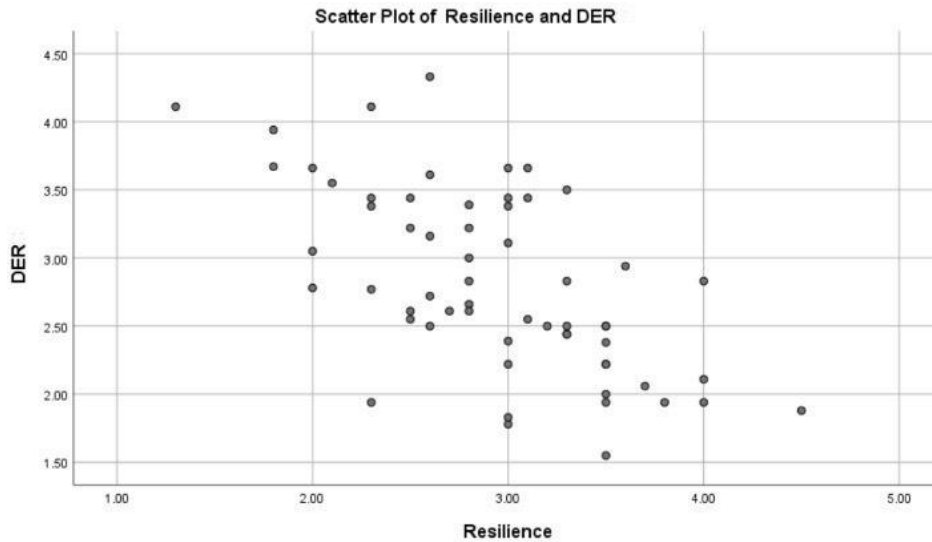

Figure 3: Resilience and Difficulties in Emotional Regulation (DER)

V. DISCUSSION & CONCLUSIONS

Findings that have emerged from the study have helped to significantly further our understanding of the relationship between the factors of self-esteem, resilience, and emotional regulation in adolescents.

The study involved calculating a Pearson correlation coefficient to examine how Self-esteem and Difficulties in Emotional Regulation (DER) are related. The results supported the alternative hypothesis (Ha1) and showed a negative relationship between Self-esteem and Difficulties in Emotional Regulation in adolescents. This means that students with lower self-esteem experienced more difficulties in emotional regulation and vice versa. Another study by Mertens et al. (2022) found that as emotional self-regulation and self-esteem improved, adolescents also demonstrated increased resilience and psychological well-being. In a study by Chandra & Pangotra (2017), it was seen that there are significant negative correlations between emotional regulation challenges, loneliness, and self-esteem among adolescents. Furthermore, Gomez et al. (2018) explored gender differences in emotional regulation and self-esteem, finding that men tend to have higher self-esteem, while women show a stronger connection between emotional regulation and self-esteem. Additionally, Öz and Kıvrak (2023) reported that obese adolescents experience heightened anxiety and depression, lower self-esteem, and struggle with emotional regulation.

The study calculated a Pearson correlation coefficient to examine the relationship between self-esteem and resilience. The results supported the alternative hypothesis (Ha2), indicating a positive relationship between self-esteem and resilience among the group of adolescents in the sample. These findings align with previous research. Supervía et al. (2022) suggested that students' self-esteem plays a crucial role in the link between resilience and life satisfaction in adolescents. Another study by Çelik et al. (2023) found that attitudes toward the past, present, and future played a mediating role in the correlation between resilience and self-esteem in adolescents. Additionally, Mehrotra et al. (2013) found a positive relationship between self-esteem and resilience among pre-medical dropouts, indicating that adolescents with high self-esteem are better able to cope with failure and setbacks.

In this research study, the correlation results for the additional dataset show a statistically significant negative relationship between Resilience and Difficulties in Emotional Regulation. This means that in this group of adolescents, students with greater difficulties in emotional regulation tend to have lower levels of resilience, and vice versa. These findings are consistent with existing research. Previous studies have shown that students who struggle with emotional regulation tend to have lower levels of emotional resilience (Desai et al., 2023). Resilience has been identified as a mediator in the relationship between test anxiety and emotional regulation

among university students (Liu et al., 2021). Additionally, a study involving 164 high school students in suburban schools in Spain found that emotional regulation was a predictor of resilience (Mestre et al., 2017).

The results of this study have enhanced our understanding of the connection between core mental health factors such as self-esteem, resilience, and emotional regulation in adolescents, particularly among the indigenous population. However, there are a few limitations. This study did not consider gender as a variable, which could be crucial for future research. Furthermore, the correlation found between self-esteem and resilience, while positive, did not reach statistical significance as per previous research. This could be due to various factors such as differences in educational demands and abilities, home and social support, personality traits, and more. These findings offer interesting directions for future research.

The findings have important practical implications for various stakeholders, including school and university management, teachers, parents, and student counsellors. The findings can be very useful in developing a comprehensive life skills program across all grade levels, from pre-primary to higher secondary. Training programs for teachers and parents that focus on fostering children's self-esteem, resilience, and emotional regulation can be extremely beneficial. Initiatives such as a Mentorship Program with a focus on mental health could be implemented in classrooms, and peer mentors can be trained to demonstrate the required mentoring strategies. At the institutional level, policies can be integrated to include social-emotional well-being components in the educational curriculum.

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Appendix 1.
Demographic details of Research study participants

Participant (Sr. No.)	Gender	Current age	School Grade
Participant 1	M	15	10
Participant 2	F	16	11
Participant 3	M	18	12
Participant 4	M	15	10
Participant 5	F	11	6
Participant 6	F	16	11
Participant 7	F	18	FY
Participant 8	F	19	12
Participant 9	M	11	6
Participant 10	F	17	10
Participant 11	M	15	10
Participant 12	M	18	12
Participant 13	F	13	8
Participant 14	F	16	11
Participant 15	F	14	9
Participant 16	F	16	14
Participant 17	M	16	9
Participant 18	M	20	10
Participant 19	M	14	11
Participant 20	F	15	10
Participant 21	M	16	13

Participant 22	M	15	10
Participant 23	M	18	11
Participant 24	M	15	11
Participant 25	F	16	12
Participant 26	F	15	11
Participant 27	F	17	12
Participant 28	M	17	11
Participant 29	M	13	8
Participant 30	F	16	11
Participant 31	F	16	11
Participant 32	M	16	10
Participant 33	F	15	10
Participant 34	M	12	7
Participant 35	F	15	10
Participant 36	M	12	7
Participant 37	F	18	12
Participant 38	F	16	10
Participant 39	M	15	10
Participant 40	F	12	7
Participant 41	M	15	10
Participant 42	F	16	10
Participant 43	F	16	11
Participant 44	F	15	10
Participant 45	M	15	10
Participant 46	F	16	9
Participant 47	F	16	10
Participant 48	F	13	8
Participant 49	M	12	7
Participant 50	F	17	12
Participant 51	F	16	11
Participant 52	M	14	9
Participant 53	F	13	8
Participant 54	M	15	9
Participant 55	M	15	10

Participant 56	M	17	11
Participant 57	M	18	12
Participant 58	M	11	6
Participant 59	M	15	10
Participant 60	F	17	10