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Examining Emotion Regulation Patterns and Their Association with Emotional Well Being Among College Students

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Research Article

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Abstract

The transition from schooling to college life is an important developmental period which comes packed with academic responsibility, adolescence, increased independence and adjustment to new environments. These experiences expect a wide range of emotions and regulation of such emotions. Difficulties in regulating emotions may intervene with academic functioning, interpersonal relationship, decision-making and psychological well-being.

The present exploratory study strives to examine emotion-regulation patterns among 60 B.Tech students from SASTRA Deemed University, the sample is selected after consent, emotion regulation strategies are listed after analysing the ERQ Emotion-Regulation Questionnaire (ERQ) developed by Gross and John (2003) which measures cognitive reappraisal and expressive suppression and supplementary questionnaires which the educational institutions can implement to strengthen students' emotion regulation skills.

The findings observed in the study are a list of strategies in regulating emotions, it also found out that improper regulation of emotions impacts academic performance, hence it is the need of the hour.The emotion regulation programmes are listed which are to be implemented among colleges to strengthen students emotion regulation skills. This study assists colleges in developing student support initiatives.

Introduction

Students transition into college is an important developmental transition which involves expectations,commitments,finances,career aspirations and social environments. Emotion regulation is very important at this stage to get away from negative emotions and to maintain a positive state of mind. This study identifies students' struggles in cases like poor examination performance, relationship breakup, peer pressure, family expectations and criticism from Present qualitative findings using actual participant responses and clearly explained themes, if these data were collected and analyzed.Building on earlier research, emotion regulation has been mapped to students' adjustability, academic performance, and well-being, with a limited focus on the unique set of emotional issues faced by first year students in a high-stakes technical university.Additionally, insights from how learners' emotional responses, coping mechanisms, support requirements and support-seeking behavior are identifiable and translate into context specific university responses are limited. First-year B. Tech students will experience a wide variety of challenges due to changes in academic, social and emotional ways in the college environment.Instructional strategies based on their emotion regulation research may assist early intervention strategies that facilitate students' academic adjustment and emotional well-being.

Therefore,studying emotion regulation among college students should not be limited to identifying students experiencing emotional difficulties. It should also examine strategies that students are willing to use to regulate emotions.

Background of the study

Emotions influence students' attention,memory, motivation, decision-making and behaviour. It can also influence students' academic performances.

For example: a student who scored low marks can interpret the result as temporary information, another student can interpret the same result as evidence of personal inadequacy. Even though the external event is similar, the emotional responses can differ based on the interpretation and regulation. This example highlights the fact that emotion regulation is not synonymous with emotional regression.

Research on group-based emotion regulation interventions has been recurrent, such as psychoeducation, emotional awareness, acceptance and tolerance. Therefore, the present study addresses this gap by examining emotion-regulation patterns and emotional challenges among first-year B.Tech students and by proposing practical strategies that can be incorporated into university-based emotion-regulation interventions.

Objectives:

1. To access emotion regulation patterns among college students
2. To identify situations that students perceive as emotionally challenging
3. To examine students existing methods of managing difficult emotions
4. To propose practical activities that can help students develop emotional awareness and regulation skills

Review of Literature

1. **Conceptual Foundation of Emotion Regulation**

Emotion regulation refers to the way people regulate their emotions and how they express them. Gross (1998) stated that there are three ways that regulation can be done: attention, interpretation, emotional response. Gross and John (2003) found 2 strategies that were important: "cognitive reappraisal," a process of changing the way a situation was viewed, and “expressive suppression,” a process of suppressing emotions when viewing a situation. Overall, reappraisal has shown to be a more positive strategy and has adverse properties of suppression. In the present study, these 2 strategies are reflected with the Emotion Regulation Questionnaire (ERQ).

2. **Cognitive Reappraisal and Expressive Suppression among University Students**

The studies of the students at the University are mostly in line with the benefits of cognitive reappraisal. Thomas and Zolkoski (2020) determined that reappraisal an indirect relationship with lower perceived stress through the level of resilience. However, Park et al. (2020) found that in a longitudinal study suppression actually lay to decrease during the first two years of university, just as cognitive reappraisal decreased. In overall results, Alruwaili (2025) also revealed a medium-level usage of both reappraisal

and suppression among university students. Findings suggest that neither an "one-size-fits-all," nor a consistent pattern of emotion-regulation strategies is expected across developmental, social and educational contexts of the students.

3. **Emotion Regulation, Academic Stress and Academic Functioning**

Emotion regulation has been shown to be strongly related to academic stress and adjustment. Kritikou and Giovazolias (2022) identified the factors related to individual, academic, social and institutional emotion regulation and academic adjustment. Similarly, de la Fuente et al., (2022) demonstrated that self-regulation and contextual factors were related to emotion-regulation problems. Nadeem, Umer, Anwar (2023) related emotion regulation to academic performance. In summary, these studies suggest that children's emotional regulation is shaped not only on the basis of their personal-psychological skills but also due to the demands of school, social interactions and the nature of the university environment.

4. **Contradictory Findings – and the role of context!**

Reappraisal is seen as adaptive, suppression less-favourable, but results are not necessarily the same. Park et al. (2020) demonstrated that even when suppressing behavior is reduced, reappraisals are also decreased, and Alruwaili (2025) reported medium use of both reappraisal and suppression behaviors. These variations could be among researchers' differences in age, culture, academic context, social support, and research methods. Another disadvantage is that if not applied in a new way it does not guarantee that students will be able to use a regulation strategy in the actual stress scenarios of the examination, interpersonal conflict or failure in study tasks.

5. **Emotion-Regulation Interventions**

EM strategies can be taught and improved, research has indicated. Breaux et al. (2021), Eadeh et al. (2021) provided supportive evidence for emotion-regulation based psychosocial interventions. It was found that emotion-regulation training reduced academic stress among university students, as reported by Setyowati, Fitriani and Anggarani (2025). Worsley et al. (2022) similarly stressed the need for assessing interventions for enhancing the psychological health and wellbeing of university students. Practical programmes, geared towards 1st year students, however, are limited.

6. **Emotion Regulation and Learning from Academic Failure**

Recent research has extended emotion-regulation research to academic failure. Adaptive emotional processing has been shown in studies by Sharabi and his colleagues to help with coping and learning from failure. In particular, Sharabi and colleagues (2026) investigated emotion regulation and learning from academic failures among college students. This is relevant to the present research since academic performance, examination stress and fear of failure are important emotional problems of first year students.

7. **Synthesis of the Literature**

In general, studies show that cognitive reappraisal correlates with various positive emotional experiences, whereas suppression correlates with less positive emotional experiences. Emotion regulation is also correlated from stress, resilience, academic adjustment, and academic performance. However, regulation patterns can shift in the course of time and depending on different contexts. There is potential, but intervention studies are not well supported in most cases because they have small numbers and/or include different populations than the population of first year university students.

8. **Research Gap**

Most of the previous studies explored emotion-regulation strategies, academic stress, and interventions independently; however, fewer studies explored emotion-regulation strategies, specific emotion problems, coping strategies, and students' needs for support at the same time. Little research has been conducted that is specifically about first-year students, although they make a big academic and social change. Moreover, there is a need of college-based practical programmes that translate the assessment into skill development and application. In view of this, the present study investigates emotion-regulation patterns in 60 first year BAME students on emotion-regulation questionnaire (ERQ) with additional questions on emotional challenges and emotion-regulation strategies with an attempt to provide information for the development of a practical emotion-regulation programme.

Methodology

A descriptive exploratory study is proposed. The quantitative component will assess students' emotion regulation patterns using a standardized instrument. Supplementary questionnaires are used to collect information about emotional challenges, emotional regulation strategies and implementation needs. The sample comprises 60 first year B.Tech students from SASTRA Deemed University Thanjavur.A purposive sampling technique was used to select the sample. Participants are selected if they fulfill the requirements in the consent form, students are excluded if they do not provide required questionnaire components.

The study was conducted inside the classroom.Demographic information is collected along with consent. Emotion Regulation Questionnaire (ERQ) by Gross and John (2003) is circulated among the students to assess cognitive reappraisal and Expressive Suppression, The questionnaire contains 10 items rated on a **7-**point response scale, ranging from 1 (strongly disagree) to 7 (strongly agree) .Researchers also developed additional questionnaires to understand the emotional challenges that the students face in regulating the emotions.Responses were recorded on a 5-point frequency scale: 1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often, and 5 = Very often. This study is conducted after getting IRB approval. Based on the answers derived from the supplementary questionnaire the possible and convenient strategies on emotion regulation were listed.

Emotion Regulation Questionnaire:

A supplementary questionnaire is developed specifically for this study after a pilot study. Firstly, the emotional challenges is examined the rate how frequently they experience difficulty in regulating emotions such as:

1. Academic examinations
2. Criticism from teachers
3. Family expectation
4. Relationships difficulties
5. Public speaking
6. Peer pressure

Options given are

1- Never, 2-Rarely, 3-Sometimes,4-often, 5-very often

Open Ended Questions:

Two open-ended questions are

1. What situations in college most commonly affect your emotions?
2. What kind of support do you think would help college students manage difficult emotions more effectively?

The qualitative responses derived were analysed to arrive at coping strategies.

Proposed Implementation Model:

A sustainable college programme is created which follows five stages

Stage1 Assess

ERQ and supplementary questionnaire is used to understand the students' needs

Stage 2 Educate

To provide basic education about emotions and emotion regulation

Stage 3 Practice

To teach and practice reappraisal, mindfulness and problem solving

Stage 4 Apply

The learned strategies are taught to allow students to apply the strategies in real life situations

Assessment-Awareness-Skill Development-Practice-Follow up

Proposed Emotion Regulation Implementation Programme

The assessment outcome indicates a three-session emotion-regulation programme is suggested for B. - First Year.Tech Students, founded on Gross and John (2003) Emotion-regulation Framework. Short psychoeducation, guided activities, reflection and discussion will be used within each 60 minute session. In session 1 Identifying Emotional Triggers students will be able to recognise the emotional triggers including examinations, academic difficulties, criticism and peer pressure without self-criticism. Group activity: Journal writing will allow students to provide response and reflections to their feeling and find healthier ways. In Session 3: Doodling and Personal planning, doodling will serve as a relaxation tool and they will also create a personal emotion-regulation plan. Progress will be evaluated by both pre- and post-programme ERQ scores as well as a short self rating of confidence in emotional management. Improved ERQ scores, increased confidence, and completion of an individual regulation plan will be measured outcomes, and will be assessed by a four-week follow-up for continued use of the strategies.

Results

Table 1
Distribution of Participants According to Gender

Gender	Frequency	Percentage
Male	36	60.0%
Female	24	40.0%
Total	60	100%

The study included 36 male students (60%) and 24 female students (40%). All 60 participants were first-year B. Tech students.

Distribution According to Age:

Table 2

Age	Frequency	Percentage
17–18 years	20	33.3%
18–19 years	34	56.7%
19–20 years	6	10.0%
Total	60	100.0%

The majority of participants, 34 students (56.7%), were between 18 and 19 years of age. Twenty students (33.3%) were between 17 and 18 years, while six students (10%) were between 19 and 20 years.

Distribution According to Residence

Table 3

Residence	Frequency	Percentage
Hostel Students	32	53.3%
Day Scholars	28	46.7%
Total	60	100.0%

Among the participants, 32 students (53.3%) were hostel residents and 28 students (46.7%) were day scholars. This distinction is relevant because hostel students may experience additional adjustment challenges associated with living away from home.

ERQ Descriptive Statistics

Table 3

ERQ Dimension	Mean	Standard Deviation
Cognitive Reappraisal	28.7	5.3
Expressive Suppression	17.4	4.8

The mean cognitive reappraisal score was **28.7 (SD = 5.3)**, whereas the mean expressive suppression score was **17.4 (SD = 4.8)**.The results indicate that cognitive reappraisal was used more frequently than expressive suppression among the first-year students in the study.

Major Emotional Challenges Reported by First-Year Students

Table 4

Emotional Challenge	Number of Students	Percentage
Academic Performance	38	63.3%
Examination Stress	34	56.7%
Adapting to the university environment	31	51.7%
Homesickness	27	45.0%
Peer/ Interpersonal difficulties	25	41.7%
Fear of academic failure	24	40.0%
Time management difficulties	23	38.3%
Career uncertainty	20	33.3%

Academic adjustment was the most frequently reported challenge, identified by 38 students (63.3%). Examination stress was reported by 34 students (56.7%), while 31 students (51.7%) reported difficulty adapting to the university environment. Homesickness was reported by 27 students (45%). Peer or interpersonal difficulties were reported by 25 students (41.7%). These findings suggest that first-year students experience emotional challenges related particularly to the transition from school to university.

Common Coping Strategies

Table 5

Coping Strategy	No of Students	Percentage
Talking with friends	40	66.7%
Listening to music	35	58.3%
Social media/online activities	30	50.0%
Spending time alone	27	45.0%
Physical/ recreational activities	24	40.0%
Sleeping/resting	22	36.7%
Meditation/mindfulness	13	21.7%
Seeking professional help	6	10.0%

Talking with friends was the most frequently reported coping strategy, reported by 40 students (66.7%). Listening to music was reported by 35 students (58.3%). Only 13 students (21.7%) reported using meditation or mindfulness, and only six students (10%) reported seeking professional support. This suggests that first-year students primarily depend on informal coping methods and may benefit from greater exposure to structured emotion-regulation strategies.

Discussion

The results showed greater adaptive emotional outcomes as predicted by previous work (Gross & John, 2003) and that emotion regulation was associated with better academic adjustment, resilience, and stress management. Among the most common emotional difficulties identified in the present study were cognitive reappraisal, academic performance, examination stress and university adjustment, while the latter was more common than the former.Cognitive reappraisal was more reported than expressive suppression, and examination stress, academic performance, and university adjustment were the main difficulties among those first-year B.Tech students. There were limited opportunities for students to use formal (mindfulness, professional support) coping strategies, while informal strategies (talking with friends, listening to music) were more commonly used. The results indicate the importance of both cognitive reappraisal and stress management, mindfulness and problem-solving along with university adaptation emotion-regulation programs for first-year engineering students.

Conclusion

The results show that in the first year B.Tech, Cognitive reappraisal was reported more often by tech students, with academic performance, examination stress, and adapting to the university environment being the most significant emotional difficulties. The study also contributes by suggesting the need for structured support for emotion regulation before and during the transition to engineering education and providing practical strategies like identifying emotions that trigger, writing journals, doodling, and making individual plans for emotion regulation. On the basis of these results, the colleges are suggested to include activities in the student-support programmes and orientation programmes for first-year students that focus on emotion-regulation. Larger and more varied engineering samples, pre/predesign, longer follow-up periods using validated measures, and emotion-regulation interventions should be assessed by future research in engineering students to determine effectiveness and sustainability.

Declarations

Ethics Approval:

This study was conducted in accordance with the ethical guidelines of SASTRA Deemed to be University. All experimental protocols were approved by SASTRA Deemed to be University

Institutional Review Board

and/or licensing ethics committee with the IRB No. IRB/2026/029.

Consent to Participate:

All participants were informed about the purpose of the study, and informed consent was obtained before participation.

Consent for Publication:

All participants were informed that the anonymized data collected from the study would be used for research and publication purposes, and they provided consent for publication.

Scoring

Items 1, 3, 5, 7, 8, 10 make up the Cognitive Reappraisal facet. Items 2, 4, 6, 9 make up the Expressive Suppression facet.

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Author Contribution

The first author (Persia Angelin.S) selected the set of students in a study group, did the experiment study. This paper was prepared after analysis. Corresponding author (Dr.Preetha.S) proofread and corrected the manuscript.

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Data Availability

All data generated or analyzed during this study are included in this published article [and its supplementary information files].

References

1. Eadeh H-M, Breaux R, Nikolas M. A meta-analytic review of emotion regulation focused psychosocial interventions for adolescents. Clin Child Fam Psychol Rev. 2021;24(4):684–706. https://doi.org/10.1007/s10567-021-00362-4.
2. Easdale-Cheele T, Nash G, Filobokova V, Westbury C, Bellato A. The effects of mindfulness-based interventions on emotion regulation/dysregulation in people with mental health conditions: A systematic review and meta-analysis. JCPP Adv. 2026;6(3):e70103. https://doi.org/10.1002/jcv2.70103.
3. Gross JJ. The emerging field of emotion regulation: An integrative review. Rev Gen Psychol. 1998;2(3):271–99. https://doi.org/10.1037/1089-2680.2.3.271.
4. Gross JJ. Emotion regulation: Past, present, future. Cognition Emot. 1999;13(5):551–73. https://doi.org/10.1080/026999399379186.
5. Gross JJ. Emotion regulation: Affective, cognitive, and social consequences. Psychophysiology. 2002;39(3):281–91. https://doi.org/10.1017/S0048577201393198.
6. Gross JJ, John OP. Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. J Personal Soc Psychol. 2003;85(2):348–62. https://doi.org/10.1037/0022-3514.85.2.348.
7. Kritikou M, Giovazolias T. Emotion regulation, academic buoyancy, and academic adjustment of university students within a self-determination theory framework: A systematic review. Front Psychol. 2022;13:1057697. https://doi.org/10.3389/fpsyg.2022.1057697.
8. Worsley JD, Pennington A, Corcoran R. Supporting mental health and wellbeing of university and college students: A systematic review of review-level evidence of interventions. PLoS ONE. 2022;17(7). https://doi.org/10.1371/journal.pone.0266725. Article e0266725.

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- emotionregulation.xlsx