Impact of Self-regulation and Self-efficacy on Academic Success Among School Students

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Abstract

Self-regulation refers to an individual's capacity to manage behaviour, thoughts, and emotions, while self-efficacy denotes belief in one's ability to achieve specific goals. Academic success is a key indicator of future educational and career opportunities. This study examined the influence of self-regulation and self-efficacy on academic success among the school students.

A sample of 212 students (103 males and 109 females), aged 12–18 years, from Kelambakkam participated in the study using convenience sampling. Data were collected using the General Self-efficacy Scale (Schwarzer et al.) and the Short Self-regulation Questionnaire (Carey et al.). Pearson's correlation and independent samples t-tests were used for data analysis.

Findings revealed a significant positive relationship between self-regulation and academic success, while self-efficacy showed no significant correlation with academic success. No significant gender differences were observed in self-efficacy, self-regulation, or academic success.

Keywords: Self-regulation, Self-efficacy, Academic Success, Gender Differences

Introduction

This study examines the role of self-efficacy and self-regulation in promoting academic success among school students enrolled in formal education at the secondary level. Grounded in Bandura's Social Cognitive Theory and Zimmerman's Model of Self-Regulation (Zimmerman 2002), the study explores how learners actively regulate their cognition, motivation, and behaviour to achieve academic goals.

Self-regulation involves goal setting, strategic planning, self-monitoring, and adaptive regulation of learning strategies (Zimmerman 2002). Research suggests that effective self-regulation is closely linked to strong self-efficacy beliefs (Schunk 2012).

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Self-efficacy, defined as belief in one's capability to perform tasks successfully (Bandura 1977), plays a crucial role in sustaining motivation and persistence in academic contexts. Academic success refers to the attainment of educational goals through sustained effort and competence (Hornby 2006) and is a strong predictor of future educational and occupational outcomes.

Self-efficacy and self-regulation are interdependent constructs. While self-efficacy provides motivational confidence, self-regulation equips learners with behavioural and cognitive strategies necessary for task execution. Successful academic outcomes further reinforce self-efficacy, creating a reciprocal cycle that supports continued learning.

Review of Literature

Wahengbam and Sharma (2024) found that self-efficacy significantly influenced career aspirations among Indian college students, with gender-based variations in aspiration patterns. Hasan and Azeem (2022) reported that both self-efficacy and self-management predicted academic achievement among university students, with self-efficacy exerting a stronger influence.

Eakman *et al.* (2019) demonstrated that academic self-efficacy mediated the relationship between instructor autonomy support and academic performance. Sadi and Uyar (2013) showed that self-efficacy positively predicted self-regulated learning strategies and academic achievement among high school students. Matthews *et al.* (2009) found that early self-regulation skills, particularly among girls, contributed to higher academic achievement in early schooling.

Study Rationale

Although existing research highlights the importance of self-efficacy and self-regulation in academic achievement, findings remain inconsistent, particularly regarding gender differences and contextual influences. Moreover, limited research has examined these constructs among school students within specific socio-cultural settings. Addressing this gap, the present study aims to provide a clearer understanding of how self-efficacy and self-regulation contribute to academic success among school students.

Explicit Research Questions

- Is there a significant relationship between self-efficacy, self-regulation, and academic achievement among school students?
- Do self-regulation or self-efficacy exhibit stronger predictive power for academic achievement?
- Are there significant gender differences in self-efficacy, self-regulation, and academic achievement among school students?

Research Objectives

- To evaluate the levels of self-regulation and self-efficacy among school students.
- To examine the relationship between self-regulation and academic success, and between self-efficacy and academic success.
- To investigate gender differences in self-regulation, self-efficacy, and academic achievement.
- To assess the effect of self-regulation and self-efficacy on academic success.

Research Hypotheses

H_{01}: No significant relationship exists between self-regulation and academic success.

H_{02}: No significant relationship exists between self-efficacy and academic success.

H_{03}: There is no significant gender difference in self-regulation among students.

H_{04}: There is no significant gender difference in self-efficacy among students.

H_{05}: No significant gender difference exists in academic achievement among students.

Methodology

The study employed a descriptive cross-sectional design to explore the relationships among self-efficacy, self-regulation, and academic success in school students.

Sample

The study involved 212 school students (103 males, 109 females) aged 12–18 years from Kelambakkam and convenience sampling was used. Initially, 223 participants were recruited; 11 were excluded due to incomplete responses.

Procedure

Data were collected over a period of two months. Participants were informed about the voluntary nature of the study and their right to withdraw at any time. Confidentiality of responses was ensured. Questionnaires were administered via Google Forms, comprising three sections: demographic information, self-efficacy, and self-regulation.

Instruments Used

- **General Self-efficacy Scale (GSES):** Developed by Jerusalem and Schwarzer (1995), this 10-item scale measures self-efficacy on a 4-point scale (1 = not at all true, 4 = exactly true). The instrument demonstrates high reliability (Cronbach's a = 0.80–0.90) and strong construct validity.
- **Short Self-regulation Questionnaire (SSRQ):** Carey *et al.*, (2004) developed this 31 item scale, including positive and negative statements, rated on a 5-point Likert scale. Negative items are reverse-scored. The SSRQ shows high reliability (Cronbach's $a > 0.80$) and validated convergent and construct properties.

- **Academic Success Measurement:** Participants' self-reported academic marks and overall percentages were collected and analysed quantitatively.

Data Analysis

The data were analysed using SPSS, with an independent samples t-test to compare the gender differences, Pearson correlation to explore relationships, and multiple regression analysis to determine the predictive power of self-efficacy and self-regulation on academic success. The analysis of the results is explained in the following section.

Results and Analysis

Descriptive Statistics

Table 1
Level of Self-regulation, Self-efficacy, and Academic Success of the Participants

Variable	Low	Normal	High
Self-regulation	29 (14%)	138 (65%)	45 (21%)
Self-efficacy	23 (11%)	112 (53%)	77 (36%)
Academic success	38 (18%)	108 (51%)	66 (31%)

Table 1 shows that 45 participants have a high level of self-regulation, accounting for 21 per cent of the total sample, followed by 138 participants with an average level of self-regulation (65%), and 29 participants with a low level of self-regulation (14%). Similarly, 77 participants have a high level of self-efficacy, representing 36 per cent of the total sample, 112 participants have an average level of self-efficacy (53%), and 23 participants have a low level of self-efficacy (11%). In terms of academic success, 66 participants have an high level (31%), 108 participants have a normal level (51%), and 38 participants have a low level of academic achievement (18%).

Inferential Statistics

Pearson correlation was performed to analyse whether there is a relationship between variables.

Table 2
Relationship Between Self-regulation and Academic Success, and Self-efficacy and Academic Success among Participants

Variables	Academic Success	N	p-value
Self-regulation	$r = 0.39$	212	0.00
Self-efficacy	$r = 0.22$	212	0.10

Table 2 presents data on the relationship between self-regulation and academic success, as well as between self-efficacy and academic success among school students. The findings indicate that self-efficacy does not have a statistically significant relationship with academic success ($p > 0.01$), whereas self-regulation shows a positive and significant correlation with academic success ($p < 0.01$).

Multiple linear regression analysis was conducted to examine the combined effect of the independent variables, on the dependent variable.

Table 3 presents the results of the multiple regression analysis conducted to examine the impact

Table 3
Impact of both Self-regulation and Self-efficacy on Academic Success

Dependent Variable	Independent Variable	B-value	R2	t-value	p-value
Academic Success	Self-efficacy	0.118	0.156	0.411	0.682
Academic Success	Self-regulation	0.321	0.156	2.515	0.015

of self-efficacy and self-regulation on academic success. The overall regression model is statistically significant (R^2 = 0.156, p = 0.013), indicating that 15.6 per cent of the variance in academic achievement is explained by the predictor variables. The results further reveal that self-efficacy does not have a significant effect on academic achievement (p=0.682), whereas self-regulation has a significant positive effect (p=0.015). This suggests that higher levels of self-regulation are associated with better academic achievement.

To examine gender differences, an independent samples t-test was conducted.

From Table 4, it can be inferred that no significant gender differences are observed among school students with respect to self-regulation, self-efficacy, and academic success. This suggests that these variables function similarly for both male and female students in the studied population.

Discussion

The present study examined the influence of self-regulation and self-efficacy on academic success among school students. The first major finding indicates that self-regulation has a significant positive relationship with academic success. This finding is consistent with the study conducted by Reza *et al.* (2018), which involved 200 female students and reported that the students who were able to manage their time effectively, set clear goals, and maintain discipline, tended to achieve better academic performance. Given the crucial role of self-regulation in academic success, it becomes essential for educators to facilitate the development of these skills among students.

Table 4
Statistical Analysis of Self-regulation, Self-efficacy, and Academic Success based on Gender

Variable	Gender	N	Mean	SD	t-value	Significance (P)
Self-efficacy	Male	103	30.12	4.43	1.31	0.19
	Female	109	28.41	5.10		
Self-regulation	Male	103	105.92	11.46	1.40	0.16
	Female	109	101.75	10.13		
Academic success	Male	103	80.96	10.74	0.69	0.49
	Female	109	79.10	8.54		

*$p \leq 0.05$

The second finding reveals that self-efficacy does not have a significant relationship with academic success. This result aligns with the findings of Hasan *et al.* (2022), who reported that self-efficacy among university students was not directly associated with improved academic performance. One possible explanation is that academic success is influenced not only by an individual's belief in their abilities but also by multiple external factors such as family expectations, teacher support, classroom environment, and peer influence. In certain contexts, these external factors may exert a stronger influence on academic outcomes than self-efficacy alone.

The third finding indicates that there is no significant gender difference in self-efficacy, which is supported by the study conducted by Wahengbam (2024). This may be attributed to changing societal norms and expectations related to gender, leading to variations in self-beliefs that are more individual-specific rather than gender-based.

The fourth finding shows that no significant gender difference exists in self-regulation. This may be explained by the fact that self-regulation skills are often developed in structured educational environments where students, irrespective of gender, are expected to adhere to deadlines, follow routines, and engage in organised learning practices. These skills are likely shaped by individual and environmental factors rather than gender.

Finally, the study found no significant gender difference in academic achievement. This finding is consistent with the study by Matthews *et al.* (2009), which included 268 school students. This suggests that overall academic achievement among students is comparable across genders and that external influences such as parental support, teaching quality, and classroom environment play a more decisive role in academic success than gender alone.

Conclusion

The present study offers important insights into the relationship between self-regulation, self-efficacy, and academic success among school students. The findings indicate that self-efficacy alone does not predict academic success, suggesting that students' belief in their abilities may not directly translate into academic performance. Although self-efficacy plays a crucial role in motivating the pupil, it must be supported by effective time management, disciplined study habits, and strong self-regulation skills to result in academic success.

In contrast, a significant positive relationship was observed between self-regulation and academic success. This finding corroborates previous research, demonstrating that students who are able to manage their time effectively, plan their learning, and maintain discipline, tend to perform better academically. Self-regulation appears to bridge the gap between confidence and actual performance, making it a more

consistent and reliable predictor of academic success.

Furthermore, the absence of significant gender differences in self-regulation, self-efficacy, and academic success indicates that these psychological constructs operate similarly for male and female students. This highlights the need for educational interventions that focus on enhancing self-regulation skills across all students rather than adopting gender-specific approaches.

Practical Implications

The findings of this study emphasises the strong association between self-regulation and academic performance, while also indicating that self-efficacy alone is not a strong predictor of academic success unless supported by practical learning skills. A student may possess confidence but still struggle academically in the absence of effective study discipline and self-regulatory strategies. Additionally, the absence of gender differences suggests that similar instructional strategies can be effectively applied to all students. Based on these findings:

- Teachers can integrate self-regulation training into the curriculum through activities focused on time management, goal-setting, planning, and effective note-taking.
- While fostering self-efficacy is important for enhancing motivation, greater emphasis should be placed on teaching concrete self-regulation strategies. By helping students practise and master these skills, educators can promote sustained academic success, which may subsequently strengthen self-efficacy through demonstrated achievements.
- As no significant gender differences were found, schools should implement universal programmes and workshops aimed at developing self-regulation skills among all students, rather than designing gender-specific interventions.

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