

Academic Engagement and Perceived Academic Success Among Senior High School Students: The Mediating Role of Self-Regulated Learning

Christian Nii Ashaley Annan

Mankessim senior high technical school, mankessim, Ghana.

Mark Kwaku Owusu Amponsah

University of cape coast, cape coast, Ghana.

Godwin Gbadagba

Dambai college of education, oti, Ghana.

Mercy Ekua Mensah

Dambai college of education, oti, Ghana

doi: <https://doi.org/10.37745/bje.2013/vol14n101628>

Published October 18, 2026

Citation: Annan C.N.A., Amponsah M.K.O., Gbadagba G. and Mensah M.E. (2026) Academic Engagement and Perceived Academic Success Among Senior High School Students: The Mediating Role of Self-Regulated Learning, *British Journal of Education*, 14 (10),16-28

Abstract: *Academic engagement and self-regulated learning (SRL) are important factors associated with students' academic experiences and perceived academic success. This study examined the relationship between academic engagement and perceived academic success and investigated the mediating role of self-regulated learning among senior high school students in the Mfantseman Municipality of Ghana. A quantitative descriptive-correlational design was employed. The study involved 322 second-year students selected from four public senior high schools through stratified and simple random sampling procedures. Data were collected using questionnaires measuring behavioural, emotional, and cognitive academic engagement, self-regulated learning, and perceived academic success. The data were analysed using Pearson product-moment correlation and Hayes' PROCESS Model 4 with 5,000 bootstrap samples. The findings showed a significant positive relationship between academic engagement and perceived academic success, $r = .564$, $p < .001$. The three dimensions of academic engagement were also positively and significantly related to perceived academic success, with behavioural engagement ($r = .388$), cognitive engagement ($r = .445$), and emotional engagement ($r = .471$), all $p < .001$. Furthermore, academic engagement significantly predicted self-regulated learning, $B = .6126$, $p < .001$, explaining 28.13% of the variance in self-regulated learning. Self-regulated learning also significantly predicted perceived academic success, $B = .2537$, $p < .001$. The indirect effect of academic engagement on perceived academic success through self-regulated learning was significant, $B = .1554$, 95% CI (.0964, .2208). Since the direct effect of academic engagement on perceived academic success remained significant, the findings indicated partial mediation. The study concludes that higher academic*

engagement is associated with greater perceived academic success and that self-regulated learning provides an important pathway through which academic engagement is related to students perceived academic success. The findings highlight the need for educational practices that strengthen both students' engagement and self-regulated learning skills.

Keywords: academic engagement, self-regulated learning, perceived academic success

INTRODUCTION

Academic success is an important outcome of secondary education because it reflects students' progress, confidence, persistence, and ability to meet the demands of formal learning. Beyond examination results and other externally determined indicators, students' perceptions of their own academic progress provide an important dimension of academic success. Perceived academic success captures how students evaluate their preparedness, progress, confidence, satisfaction, and ability to cope with academic demands. Understanding the factors associated with students' perceived academic success is therefore important for improving teaching and learning, particularly at the senior high school level. One factor that has received considerable attention in explaining students' academic outcomes is academic engagement. Academic engagement refers to the extent to which students participate in, feel connected to, and invest effort in their learning activities. It is commonly understood as a multidimensional construct comprising behavioural, emotional, and cognitive engagement (Fredricks et al., 2004; Wang & Eccles, 2013). Behavioural engagement involves students' participation in academic activities, including attending classes, completing assignments, participating in discussions, and putting effort into schoolwork. Emotional engagement concerns students' interest, motivation, sense of belonging, enjoyment, and positive feelings towards school and learning. Cognitive engagement reflects students' intellectual investment in learning, including the use of learning strategies, connecting new knowledge with prior knowledge, reflection, and engagement in challenging academic tasks (Fredricks et al., 2004).

The multidimensional nature of academic engagement is important because successful learning requires more than physical attendance or participation. Students may attend classes regularly but remain intellectually or emotionally detached from learning. Conversely, students who are behaviourally involved, emotionally connected to school, and cognitively invested in learning may be more likely to participate actively in academic tasks and persist when they encounter difficulties. Wang and Eccles (2013) similarly conceptualised school engagement through behavioural, emotional, and cognitive dimensions and demonstrated that these dimensions are connected to students' motivational and school experiences. More recent evidence further confirms the relevance of engagement to academic outcomes. In a systematic review and meta-analysis of 137 studies involving 158,510 participants, Wong et al. (2024) found meaningful associations between student engagement and academic achievement across behavioural, affective, and cognitive dimensions. Similarly, Lei et al. (2018), in a meta-analysis of 69 studies involving 196,473 participants, reported positive relationships between overall student engagement and academic achievement, as well as between behavioural, emotional, and cognitive engagement and achievement.

Although academic engagement is important, engagement alone may not fully explain why some students perceive themselves as more academically successful than others. Students differ in how they organise, monitor, and evaluate their learning. This brings self-regulated learning (SRL) into focus. SRL refers to the active processes through which learners regulate their cognition, motivation, emotions, and behaviours in pursuit of learning goals (Panadero, 2017). From a social-cognitive perspective, self-regulated learning involves cyclical processes of forethought, performance, and self-reflection, through which learners establish goals, plan their activities, monitor their performance, and evaluate their learning outcomes (Zimmerman, 2000). Self-regulated learning is particularly relevant to academic engagement because engaged students are not merely passive recipients of instruction. Their active participation may create opportunities for them to develop and apply strategies for managing their learning. For example, students who participate actively in class, invest effort in difficult tasks, and connect learning to their future goals may be more likely to set academic goals, monitor their understanding, seek clarification, manage their time, and reflect on their learning. Thus, SRL may provide an important mechanism through which academic engagement is associated with students' perceived academic success.

The importance of SRL for academic outcomes is supported by empirical research. Theobald (2021), in a meta-analysis of 49 studies involving 5,786 university students, found that self-regulated learning training had positive effects on academic performance, SRL strategies, and motivation. The study reported an overall effect size of $g = .38$, with a positive effect on academic performance ($g = .37$). Although the study was conducted in higher education, its findings reinforce the broader proposition that students' capacity to regulate their learning is meaningfully connected to academic outcomes. The relationship between academic engagement and perceived academic success is particularly relevant in the Ghanaian senior high school context. Senior high school students are required to manage increasing academic demands while attending classes, completing assignments, preparing for assessments, participating in school activities, and making decisions about their learning. Consequently, students' willingness to participate in academic activities and their capacity to regulate their learning may be important for how they perceive their academic progress.

Behavioural engagement was reflected in regular class attendance, effort in schoolwork, timely completion of homework, participation in class discussions, and avoidance of distractions. Emotional engagement included students' pride in belonging to their schools, motivation to attend school, enjoyment of school activities, excitement about learning, and perceived support from teachers and peers. Cognitive engagement was demonstrated through reflection on the relevance of learning to future goals, connecting new ideas with prior knowledge, spending additional time on challenging topics, using different strategies to understand difficult concepts, and asking questions to clarify understanding. Beyond the direct relationship between academic engagement and perceived academic success, the paper examined whether self-regulated learning mediates this relationship. Mediation is theoretically relevant because academic engagement may provide the behavioural, emotional, and cognitive foundation for students to develop and employ self-regulatory learning strategies. Students who are more involved in learning may be more likely to set goals, plan learning activities, monitor their understanding, manage their effort, and reflect on their progress. These self-regulatory processes may subsequently be associated with more positive perceptions of academic success.

By focusing on these relationships, the study contributes empirical evidence concerning the interconnected roles of academic engagement and self-regulated learning in students' perceptions of academic success. The findings may provide useful implications for teachers, school leaders, and educational stakeholders seeking to strengthen students' behavioural participation, emotional connection, cognitive investment, goal setting, monitoring, reflection, and other learning-regulation practices that may support positive academic experiences.

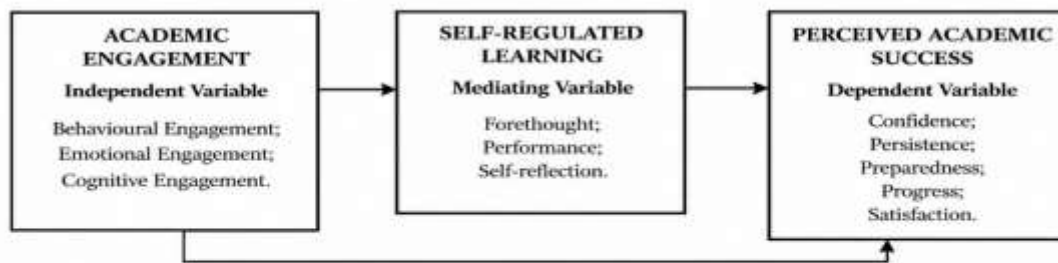


Figure 1. Conceptual framework showing the hypothesised relationship among academic engagement, self-regulated learning, and perceived academic success.

Objectives

1. To assess the relationship between academic engagement and perceived academic success among senior high school students in the Mfantseman Municipality.
2. To examine the mediating role of self-regulated learning in the relationship between academic engagement and perceived academic success among senior high school students in the Mfantseman Municipality.

Hypothesis

1. H₀₁: There is no statistically significant relationship between academic engagement and perceived academic success.
2. H₀₂ : Self-regulated learning does not significantly mediate the relationship between academic engagement and perceived academic success.

METHODOLOGY

Research Design

The study employed a quantitative descriptive-correlational research design to examine the relationship between academic engagement and perceived academic success and to determine whether self-regulated

learning (SRL) mediated this relationship among senior high school students. A correlational design is appropriate when the purpose is to examine the degree and direction of association between variables without manipulating them.

The design was appropriate for the present study because the variables academic engagement, self-regulated learning, and perceived academic success were measured as they naturally occurred among students. Pearson product-moment correlation was used to assess the relationship between academic engagement and perceived academic success, while mediation analysis was used to examine the indirect relationship through self-regulated learning. The correlational nature of the design means that the findings are interpreted as associations and indirect statistical relationships rather than evidence of causation.

Population and Sampling

The target population comprised students enrolled in the four public senior high schools in the Mfantseman Municipality was 1,381 students. The distribution was 659 students from Mfantseman Girls Senior High School, 418 from Mankessim Senior High Technical School, 143 from Anomabo Kwegyir Aggrey Senior High School, and 161 from Saltpond Methodist Senior High School. The sample size was determined using the Krejcie and Morgan finite-population approach. For a population of 1,381, the minimum estimated sample was approximately 301 students. However, the study retained a sample of 322 students to provide additional precision and adequate representation across the four schools. Proportional allocation resulted in 154 students from Mfantseman Girls SHS, 97 from Mankessim SHS, 33 from Anomabo Kwegyir Aggrey SHS, and 38 from Saltpond Methodist SHS.

Data collection instrument and Procedure

A multistage sampling procedure was employed. First, SHS 2 students were purposively identified as the study population because of their relevance to the objectives of the study. Second, the 1,381 students were stratified according to their respective schools. Third, the sample of 322 was proportionally allocated across the four schools according to the size of each school's SHS 2 population. Finally, simple random sampling was used within each school stratum to select individual participants. School registers served as the sampling frames. Each eligible student's name was assigned a number, after which the required number of participants was selected through a random-lottery procedure. This procedure ensured representation from each school while giving eligible students within each stratum an equal opportunity to participate

Data were collected using a structured self-administered questionnaire. Academic engagement was measured using 15 items, with five items measuring each of three dimensions: behavioural engagement, emotional engagement, and cognitive engagement. Self-regulated learning was assessed using 12 items, with four items representing each of three phases: forethought, performance, and self-reflection. Perceived academic success was measured using 10 researcher-adapted self-report items. The items were informed by multidimensional perspectives on academic success and engagement, including the work of Wang and Eccles (2013) and York et al. (2015). The items assessed students' perceptions of their academic confidence, persistence, use of feedback, preparedness, academic progress, and satisfaction with their academic performance

Data Processing and Analysis

The completed questionnaires were edited, coded, and entered into SPSS Version 25 for analysis. Data were checked for inconsistencies and errors before analysis. The individual student constituted the unit of analysis. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarise the characteristics of the respondents and the study variables. For the main analyses, composite scores were calculated for academic engagement, self-regulated learning, and perceived academic success.

To address the first objective, Pearson product-moment correlation was used to determine the relationship between academic engagement and perceived academic success. Pearson correlation was also used to examine the relationships between the three dimensions of academic engagement behavioural, emotional, and cognitive engagement and perceived academic success.

To address the second objective, a simple mediation analysis was conducted using Hayes' PROCESS macro, Model 4, in SPSS. Academic engagement was specified as the independent variable (X), self-regulated learning as the mediating variable (M), and perceived academic success as the dependent variable (Y). The mediation model estimated the direct effect of academic engagement on perceived academic success and the indirect effect operating through self-regulated learning.

The indirect effect was assessed using 5,000 bootstrap samples and a 95% confidence interval. An indirect effect was considered statistically significant when the bootstrap confidence interval did not contain zero. Statistical significance for the inferential analyses was evaluated at $\alpha = .05$. The use of PROCESS Model 4 is consistent with mediation studies examining a single mediator between a predictor and an outcome. Because the study employed a cross-sectional correlational design, the mediation analysis was interpreted as evidence of a statistically significant indirect association rather than proof that academic engagement causes changes in self-regulated learning or perceived academic success.

Validity and reliability

The questionnaire items were developed and adapted to reflect the study's key constructs: academic engagement, self-regulated learning, and perceived academic success. The questionnaire was pilot-tested using 30 Senior High School students before the main data collection. The internal consistency of the questionnaire was assessed using Cronbach's alpha. The reliability coefficients were .846 for academic engagement, .886 for self-regulated learning, and .850 for perceived academic success, with an overall coefficient of .945. These coefficients indicate good to high internal consistency of the questionnaire scales (Taber, 2018).

Ethical considerations

Ethical approval was obtained from the University of cape coast (UCC-010/2025). Participants received information about the study, gave informed consent, and were assured of confidentiality and of their right to withdraw without penalty.

RESULTS /FINDINGS

Relationship between Academic Engagement and Perceived Academic Success

The results indicated that behavioural engagement was positively and significantly associated with perceived academic success, $r = .388$, $p < .001$. Similarly, cognitive engagement was positively and significantly associated with perceived academic success, $r = .445$, $p < .001$. The results further showed a positive and significant relationship between emotional engagement and perceived academic success, $r = .471$, $p < .001$. Most importantly, overall academic engagement had a positive and significant relationship with perceived academic success, $r = .564$, $p < .001$.

Table 1: *Pearson Correlations between Academic Engagement and Perceived Academic Success*

Academic engagement dimension	<i>r</i>	<i>p</i>	<i>N</i>	Interpretation
Behavioural engagement	.388	< .001	322	Positive, moderate
Cognitive engagement	.445	< .001	322	Positive, moderate
Emotional engagement	.471	< .001	322	Positive, moderate
Overall academic engagement	.564	< .001	322	Positive, moderate

Note. Correlations are significant at the .05 level (2-tailed). Source: Field Survey (2025). Values of p reported as .000 are presented here as $p < .001$ in accordance with conventional reporting practice.

Mediating Role of Self-Regulated Learning in the Relationship between Academic Engagement and Perceived Academic Success

The first part of the mediation analysis examined whether academic engagement was significantly associated with self-regulated learning. The model was statistically significant, $F = 125.2701$, $p < .001$, and accounted for 28.13% of the variance in self-regulated learning ($R^2 = .2813$). Academic engagement had a positive and statistically significant association with self-regulated learning, $B = .6126$, $SE = .0547$, $t = 11.1924$, $p < .001$.

The second part of the analysis examined the simultaneous relationships of academic engagement and self-regulated learning with perceived academic success. The model was statistically significant, $F = 97.5978$, $p < .001$, and explained 37.96% of the variance in perceived academic success ($R^2 = .3796$). Academic engagement remained significantly associated with perceived academic success after self-regulated learning was entered into the model, $B = .4108$, $SE = .0522$, $t = 7.8689$, $p < .001$. Self-regulated learning also had a positive and statistically significant association with perceived academic success, $B = .2537$, $SE = .0452$, $t = 5.6131$, $p < .001$. The indirect effect of academic engagement on perceived academic success through self-regulated learning was $B = .1554$, $SE = .0317$, with a 95% bootstrap confidence interval of [.0964, .2208].

Table 2: *Mediation of the Relationship between Academic Engagement and Perceived Academic Success through Self-Regulated Learning*

Path/Effect	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	95% CI
AE→ SRL	.6126	.0547	11.1924	< .001	[.5049, .7203]
AE→ AS (DE)	.4108	.0522	7.8689	< .001	[.3081, .5135]
SRL → AS	.2537	.0452	5.6131	< .001	[.1648, .3427]
AE→ SRL → AS (IE)	.1554	.0317	—	—	[.0964, .2208]

Note. *N* = 322. AE : Academic engagement, AS: academic success, SRL: self-regulated learning, DE: direct effect, IE : indirect effect. Mediation was tested using Hayes' PROCESS Model 4 with 5,000 bootstrap samples and a 95% confidence interval. The indirect effect is statistically significant because its bootstrap confidence interval does not include zero. Source: Fieldwork (2025).

FINDINGS

Relationship between Academic Engagement and Perceived Academic Success

The first objective of the study was to examine the relationship between academic engagement and perceived academic success among senior high school students in the Mfantseman Municipality. The findings revealed a statistically significant positive relationship between overall academic engagement and perceived academic success. This finding indicates that students who reported higher levels of involvement in their academic activities also tended to report higher levels of academic success. The magnitude of the correlation suggests a moderate positive association between the two constructs. The finding supports the view that students' active participation, emotional involvement, and cognitive investment in learning are important dimensions of their educational experiences and outcomes.

The finding is consistent with the multidimensional conceptualisation of student engagement proposed by Fredricks et al. (2004), who identified behavioural, emotional, and cognitive engagement as distinct but related dimensions of engagement. Their review emphasised that engagement encompasses how students behave, feel, and think about their learning. The present finding suggests that these different forms of involvement are associated with students' perceptions of their academic progress, preparedness, confidence, persistence, and satisfaction.

The finding is also consistent with the meta-analysis by Lei et al. (2018), which examined 69 independent studies involving 196,473 participants and found a moderately strong positive relationship between overall student engagement and academic achievement. The meta-analysis further indicated that behavioural, emotional, and cognitive engagement were generally positively related to academic achievement. Thus, the present study adds evidence from the Ghanaian senior high school context to the broader literature showing that students' engagement in learning is associated with more favourable academic outcomes. With respect to the individual dimensions of academic engagement, behavioural engagement was positively related to perceived academic success, $r = .388$, $p < .001$. This suggests that students who participate in classroom activities, complete academic tasks, attend to learning activities, and demonstrate effort tend to perceive themselves as more academically successful. Behavioural engagement represents the observable component of students' involvement in schooling and provides opportunities for students

to interact with teachers, peers, instructional materials, and learning tasks. Wang and Eccles (2013) similarly conceptualised school engagement as comprising behavioural, emotional, and cognitive dimensions and demonstrated that different aspects of the school environment are associated with these forms of engagement.

The positive relationship between behavioural engagement and perceived academic success may therefore be understood in terms of the opportunities that active participation provides for learning. Students who regularly participate in lessons and persist with academic tasks are more likely to encounter learning experiences that allow them to practise, receive feedback, identify areas of difficulty, and monitor their progress. However, because the present study employed a descriptive-correlational design, the finding should be interpreted as an association rather than evidence that behavioural engagement directly causes academic success.

Cognitive engagement also demonstrated a statistically significant positive relationship with perceived academic success. This finding suggests that students who invest mental effort in understanding, analysing, connecting, and applying academic information tend to report more favourable perceptions of their academic success. Cognitive engagement goes beyond simply participating in classroom activities because it concerns the depth and quality of students' intellectual involvement in learning. The finding is consistent with the multidimensional perspective of engagement, which recognises cognitive investment as an important component of students' educational involvement (Fredricks et al., 2004).

The result may also be explained by the relationship between deeper cognitive involvement and effective learning processes. Students who actively attempt to understand academic content may be more likely to identify learning difficulties, connect new information with prior knowledge, and apply appropriate learning strategies. Such processes can contribute to students' perceptions that they are making meaningful academic progress. This interpretation is compatible with Panadero's (2017) review of self-regulated learning, which highlights the importance of cognitive and metacognitive processes in effective learning. Emotional engagement was also significantly and positively related to perceived academic success. Of the three dimensions examined, emotional engagement produced the largest observed correlation coefficient. This suggests that students' positive feelings and emotional involvement in schooling may be particularly relevant to how they perceive their academic experiences and progress. Students who feel interested in learning, enjoy academic activities, and experience a sense of belonging may be more inclined to participate actively and persist when they encounter academic difficulties.

This finding is consistent with Fredricks et al. (2004), who conceptualised emotional engagement as students' affective responses to school, including interest, enjoyment, and a sense of belonging. It is also compatible with Wang and Eccles (2013), whose longitudinal study showed that school context and achievement motivation were related to the development of behavioural, emotional, and cognitive engagement. The finding therefore reinforces the importance of considering students' emotional experiences alongside their observable participation and cognitive effort when examining academic outcomes.

Although emotional engagement had the largest observed correlation coefficient among the three dimensions in the present study, this should not be interpreted as evidence that emotional engagement is statistically stronger than behavioural or cognitive engagement. The study did not conduct a formal statistical comparison of the three correlation coefficients. The appropriate conclusion is that emotional engagement had the largest observed association with perceived academic success in this sample.

Overall, the findings demonstrate that behavioural, cognitive, and emotional engagement are all significantly associated with perceived academic success. This supports the argument that academic engagement should be treated as a multidimensional construct rather than as a single form of student participation. The results have practical implications for senior high school education in Ghana because efforts to improve students' academic experiences should address not only attendance and participation but also students' emotional connection to learning and their cognitive investment in academic tasks.

Mediating Role of Self-Regulated Learning

The second objective examined whether self-regulated learning mediates the relationship between academic engagement and perceived academic success. The results showed that academic engagement significantly predicted self-regulated learning. This finding suggests that higher levels of academic engagement are associated with greater use of self-regulatory learning processes among the students.

The finding can be interpreted within self-regulated learning theory, which views effective learning as involving cognitive, metacognitive, behavioural, motivational, and emotional processes (Panadero, 2017). In the present study, self-regulated learning incorporated processes associated with forethought, performance, and self-reflection. Students who are actively engaged in their academic work may have greater opportunities and motivation to set learning goals, plan their activities, monitor their performance, evaluate their progress, and adjust their learning strategies.

The positive relationship between academic engagement and self-regulated learning is particularly important because engagement and self-regulation are conceptually related but distinct constructs. Engagement describes students' involvement in learning, whereas self-regulated learning concerns the processes through which students actively manage and regulate their learning. Consequently, a student may be behaviourally engaged in classroom activities while demonstrating different levels of planning, monitoring, strategy use, and self-reflection. The present finding suggests that greater academic engagement is associated with stronger self-regulatory processes, thereby providing empirical support for considering these constructs together in explaining students' academic experiences.

The finding is further supported by evidence from research on interventions designed to strengthen self-regulated learning. Theobald (2021), in a meta-analysis of studies involving self-regulated learning training, found that self-regulated learning training produced positive effects on academic performance, self-regulated learning strategies, and motivational outcomes. The largest effects included metacognitive and resource-management strategies. Similarly, Shao et al. (2023) reported through a meta-analysis that regulated-learning scaffolding had a moderate positive effect on regulation strategies and learning-related outcomes. These findings underscore the importance of students' ability to actively regulate their learning processes.

The results further showed that self-regulated learning significantly predicted perceived academic success. The outcome model explained 37.96% of the variance in perceived academic success. This result indicates

that students with higher levels of self-regulated learning tended to report higher levels of perceived academic success when academic engagement was taken into account.

One possible explanation is that self-regulated learning equips students with processes for managing academic demands. Students who plan their learning, monitor their understanding and performance, and reflect on their outcomes may be better positioned to identify difficulties and make adjustments to their learning approaches. Such processes can enhance students' sense of preparedness, progress, persistence, and confidence, which are components of perceived academic success in the present study. Panadero (2017) describes SRL as a cyclical process involving different phases and subprocesses through which learners regulate their cognition, motivation, behaviour, and emotions.

The finding is also consistent with Theobald (2021), whose meta-analysis showed that self-regulated learning training was associated with improvements in academic performance as well as metacognitive, cognitive, and resource-management strategies. Similarly, Fong et al. (2023), in a meta-analytic review found that underachieving students tended to report lower levels of self-regulated learning strategies than non-underachieving students. Together, these findings suggest that self-regulatory learning processes are relevant to students' academic functioning and outcomes.

Importantly, the mediation analysis revealed a statistically significant indirect effect of academic engagement on perceived academic success through self-regulated learning. At the same time, the direct effect of academic engagement on perceived academic success remained statistically significant. The findings therefore indicate partial statistical mediation.

The partial mediation finding is theoretically meaningful because it suggests that self-regulated learning represents one pathway through which academic engagement is associated with perceived academic success, while academic engagement also retains an association with perceived academic success that is not accounted for by self-regulated learning alone. In other words, students' academic engagement may be associated with perceived academic success both through their self-regulatory learning processes and through other mechanisms that were not examined in this study.

This interpretation is compatible with the multidimensional nature of engagement and self-regulated learning. Engagement encompasses students' behavioural, emotional, and cognitive involvement, whereas self-regulated learning includes processes related to planning, monitoring, strategy use, motivation, and reflection. Consequently, it is reasonable that self-regulated learning explains part, rather than all, of the relationship between engagement and perceived academic success.

The findings also have implications for educational practice in senior high schools. Interventions aimed at improving students' academic outcomes may benefit from combining strategies that increase academic engagement with explicit instruction in self-regulated learning. Teachers could, for example, encourage students to establish learning goals, plan study activities, monitor their understanding, use feedback, reflect on completed tasks, and modify ineffective learning strategies. Evidence from meta-analytic

research indicates that structured support for self-regulated learning can improve regulation strategies and academic outcomes (Shao et al., 2023; Theobald, 2021).

At the same time, the mediation finding should be interpreted cautiously. The data were collected at one point in time and analysed using correlational and regression-based procedures. Therefore, the significant indirect effect does not establish that academic engagement causes self-regulated learning or that self-regulated learning causes perceived academic success. Rather, the result indicates that the observed data are consistent with a statistical mediation model in which self-regulated learning accounts for part of the association between academic engagement and perceived academic success. Longitudinal or experimental research would be required to establish temporal ordering and stronger causal evidence.

Overall, the findings provide evidence that academic engagement and self-regulated learning are important correlates of students' perceived academic success. The significant direct and indirect pathways suggest that strengthening students' involvement in learning while simultaneously developing their capacity to regulate their own learning may provide a more comprehensive approach to supporting positive academic experiences. The findings are particularly relevant to senior high school education, where students increasingly need to assume responsibility for planning, monitoring, and evaluating their own learning.

CONCLUSION AND RECOMMENDATION

This study examined the relationship between academic engagement and perceived academic success and investigated the mediating role of self-regulated learning among senior high school students in the Mfantseman Municipality of Ghana. The findings revealed a statistically significant positive relationship between academic engagement and perceived academic success. Behavioural, cognitive, and emotional engagement were each positively associated with perceived academic success, indicating that students' participation in learning activities, intellectual investment, and emotional involvement are all relevant to how they evaluate their academic progress and experiences. Among the three dimensions, emotional engagement recorded the largest observed correlation with perceived academic success, although the study did not establish whether this relationship was statistically stronger than those of the other dimensions.

The findings further demonstrated that self-regulated learning significantly mediated the relationship between academic engagement and perceived academic success. The significant indirect effect, together with the continued significance of the direct effect, indicated partial statistical mediation. This suggests that self-regulated learning accounts for part of the association between academic engagement and perceived academic success, while other factors may also contribute to this relationship. Students' ability to plan their learning, monitor their progress, evaluate their performance, and adjust their learning strategies is therefore an important consideration when examining their perceptions of academic success. The study concludes that academic engagement and self-regulated learning should be considered complementary elements in efforts to support students' academic experiences. Teachers and school authorities may therefore need to adopt teaching and learning practices that promote active participation, stimulate students' interest, encourage deeper cognitive involvement, and develop independent learning

skills. However, because the study employed a cross-sectional correlational design and relied on students' self-reported data, the findings establish statistical associations rather than causal relationships. Future research could use longitudinal or intervention-based designs and objective academic performance measures to examine how academic engagement and self-regulated learning relate to students' academic outcomes over time.

REFERENCES

- Fong, C. J., Patall, E. A., Snyder, K. E., Hoff, M. A., Jones, S. J., & Zuniga-Ortega, R. E. (2023). Academic underachievement and its motivational and self-regulated learning correlates: A meta-analytic review of 80 years of research. *Educational Research Review*, 41, 100566.
- Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research*, 74(1), 59–109.
- Lei, H., Cui, Y., & Zhou, W. (2018). Relationships between student engagement and academic achievement: A meta-analysis. *Social Behavior and Personality: An International Journal*, 46(3), 517–528.
- Panadero, E. (2017). A review of self-regulated learning: Six models and four directions for research. *Frontiers in Psychology*, 8, Article 422.
- Shao, J., Chen, Y., Wei, X., Li, X., & Li, Y. (2023). Effects of regulated learning scaffolding on regulation strategies and academic performance: A meta-analysis. *Frontiers in Psychology*, 14, 1110086.
- Taber, K. S. (2018). The use of Cronbach's alpha when developing and reporting research instruments in science education. *Research in Science Education*, 48, 1273–1296.
- Theobald, M. (2021). Self-regulated learning training programs enhance university students' academic performance, self-regulated learning strategies, and motivation: A meta-analysis. *Contemporary Educational Psychology*, 66, 101976.
- Wang, M.-T., & Eccles, J. S. (2013). School context, achievement motivation, and academic engagement: A longitudinal study of school engagement using a multidimensional perspective. *Learning and Instruction*, 28, 12–23.
- Wong, Z. Y., Liem, G. A. D., Chan, M., & Datu, J. A. D. (2024). Student engagement and its association with academic achievement and subjective well-being: A systematic review and meta-analysis. *Journal of Educational Psychology*, 116(1), 48–75.
- Zimmerman, B. J. (2000). Attaining self-regulation: A social cognitive perspective. In M. Boekaerts, P. R. Pintrich, & M. Zeidner (Eds.), *Handbook of self-regulation* (pp. 13–39). Academic Press.