

# Motivation and Academic Performance: Evidence from Two Senior High Schools in Ghana

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**How to cite this paper:** Dabie, P. K. (2025). Motivation and Academic Performance: Evidence from Two Senior High Schools in Ghana. *Open Journal of Social Sciences*, 13, 497-527.

<https://doi.org/10.4236/jss.2025.133034>

**Received:** February 10, 2025

**Accepted:** March 18, 2025

**Published:** March 21, 2025

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## Abstract

The notion that students' performance on examinations depends only upon teaching and learning and how well the student prepares is overly simplistic. Although these are key factors, other essential factors greatly influence students' performance. The present study helped to identify one of such significant interventions at Ghana's Senior High School (SHS) level. This research used quantitative, qualitative, and experiential research approaches. The study aimed to evaluate the effectiveness or otherwise of a motivation policy on academic performance at the SHS level and how it affected students' performance. Primary and secondary data were used as methodology. The data were analyzed using descriptive and inferential statistics. Two schools, Presbyterian Boys' Secondary School, Legon (PRESEC Legon) and Presbyterian Senior High School, La (PRESEC La), both in Accra, were used for the study. The motivation policy provided financial rewards to students. The motivation policy had a positive impact on SHS students. The study has developed evidence-based recommendations to help policymakers.

## Keywords

Academic Performance, Motivation, Intrinsic, Extrinsic, Coach Tutoring, Self-Efficacy

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## 1. Introduction

The recommendation of the New Educational Reform in 1987 led to the formation of the new 3-year Senior Secondary School (SSS) system in Ghana in 1991. According to the West African Examination Council (WAEC), out of 42,121 candidates who sat for the Senior Secondary School Certificate Examination (SSSCE)

in Ghana, only 1656 candidates, representing 3.9%, passed in all nine subjects across the country. The examination was held between 22nd November and 7th December 1993. “This maiden performance was upsetting and discouraging” (Abaidoo, 2004). Even though available data from WAEC has shown some improvement over the maiden examination, there is still more to be done to improve the general performance. The general SHS performance over the years has not been outstanding, see **Table 1**. Ghana Tertiary Education Commission (GTEC), formerly the National Accreditation Board (NAB), is responsible for ensuring equitable and inclusive access to all tertiary education programs and services in Ghana. GTEC, as part of its mandate, has set up a prescribed minimum entry requirement to progress to any tertiary level of education. A candidate must obtain grades A1 to C6 in all the required subjects to gain admission into any tertiary-level education in Ghana. Notwithstanding, for students to be admitted into programs such as Aeronautical Engineering, Geographic Information Systems, Medicine, Pharmacy, Land Economy, and Computer Analytical Engineering, among others, the candidate should get at least A1 in relevant six subjects to qualify to enroll in these programs with prominent future prestigious prospects. In this sense, there is a need to ensure more A1 grades to help candidates enter such a category of professions in the future. Apart from the national pass rate, this research has provided the pass rate for the two SHS based on the GTEC criteria and the specific number of A1 grades for each school as the basis for the argument.

**Table 1.** Statistics on the percentage of students who obtained grades between A1-C6 in WASSCE from 2006 to 2023.

(a)								
2006	2007	2008	2009	2010	2011	2012	2013	2014
12.52%	10.58%	12.95%	14.58%	No Exams	26.00%	31.19%	19.15%	28.10%
(b)								
2015	2016	2017	2018	2019	2020	2021	2022	2023
37.76%	47.25%	62.02%	48.98%	65.3%	57.95%	60.01%	63.90%	67.70%

Source: <https://waecgh.org>.

Motivation has a key impact on academic success. In general terms, motivation could be an internal or external stimulus that activates and guides goal-oriented behavior that influences an individual’s choices and effort in doing something. It should be emphasized that motivation is the driving force that initiates and sustains an individual’s behavior, direction, and persistence. Motivation is the primary catalyst that compels students to actively participate in the educational journey, persevere in the face of obstacles, and achieve scholastic accomplishments. Motivated students are much more likely to reach their potential and find success, which results in more positive behavior and promotes students’ significant sense of well-being than those who are not (Hawthorne, 2021). “Generally, individuals are motivated to perform their work by such powerful and significant incentives,

as money, promotion, status, acclaim and fame” (Zajda, 2023: p. 9).

A fundamental difficulty in the Ghanaian educational system is the extensive use of conventional teaching techniques that favor rote learning, memorization, and teacher-centered approaches (Amoako-Atta & Asamoah, 2021). These strategies often do not effectively include students in the learning process, which can result in a deficiency of internal motivation and reduced academic achievement. Khan and Iqbal (2012) noted that when classes are overcrowded, students cannot have dedicated one-on-one time with their teachers, causing academic achievement deterioration. Research by Owusu Amponsah et al. (2018) demonstrated that gender stereotypes and cultural views might significantly affect girls’ motivation and educational success, especially in Science, Technology, Engineering, and Mathematics (STEM) topics.

The quality of school infrastructure and availability of instructional resources may substantially affect students’ motivation and academic achievement. Research by Amoako-Atta and Asamoah (2021) indicated that many schools in Ghana lack necessary facilities, such as well-equipped libraries, laboratories, and computer labs, which might hamper students’ capacity to participate in practical learning experiences and build critical thinking abilities. Additionally, the absence of proper teaching materials and textbooks might further compound the obstacles experienced by students in their academic endeavors (Baidoo-Anu et al., 2019).

### 1.1. Policy Problem Identified

Presbyterian Boys Secondary School, Legon (PRESEC Legon), was established in 1938 by the Presbyterian Church of the then-Gold Coast (now Ghana) as a secondary school for only boys. The school started with 16 students and has since become one of Ghana’s most prestigious secondary schools. In 1953, the school was moved from its original location at Odumase Krobo to its current location at Legon in Accra.

PRESEC Legon is recognized in Ghana as “The Academic Pinnacle”. The school has produced leaders and prominent personalities who have changed the nation’s direction for the better. The school is among the first five top secondary schools in Ghana in terms of academic excellence. In 1999, out of over 500 secondary schools that took part in the West African Examination Council’s (WAEC) final examination, PRESEC Legon won the WAEC’s Excellence Awards for the best individual performances in the final examinations. In 2010, out of 35 countries worldwide that took part in the International Junior Science Olympiad (IJSO) in Abuja, Nigeria, the school represented Ghana and won a bronze medal. The school also won a silver medal in the same IJSO in Doha, Qatar, in 2019. The Overall Best Candidate in the General Arts Program in the West African Examinations Council’s final examination 2013 was from the school.

Again, a student from PRESEC Legon was adjudged the overall best WASSCE candidate in Ghana and won the 2nd prize in West Africa at WAEC’s 2021 International Excellence Awards organized in 2022. In 2022, a team of two geography

students won the 2nd position in the International Geography Olympiad Competition (IGEO) held in Paris, France. In addition, the school has won the National Geographic Information System (GIS) Quiz Competition organized by the Geography Department of the University of Ghana for four consecutive times uninterrupted. That's not all; PRESEC Legon is the only secondary school in Ghana that has won the National Science and Maths Quiz (NSMQ) Competition eight times. Aside from this, the school has received countless regional, national, and continental awards in the past and present.

PRESEC La, on the other hand, was established in 1994 as a community-based school to serve the people of La. The La people are one of the indigenous Ga-Dangme groups traditionally inhabited the Accra Plains, including the Greater Accra Region of Ghana. The La people settled in the coastal areas around Labadi, Teshie, and Nungua in the early 16th century and were known for fishing and farming. They recently established PRESEC La to cater to the educational needs of the children in the predominantly fishing community. The school is a young one and developing as well. Although the school is 30 years old, few achievements have yet been accomplished. The school is generally struggling with school facilities such as adequate classrooms, laboratories, and playing grounds, among others. Since it is located at the core of the built-up community, La, it has limited space for expansion. Despite these challenges, the school has produced many prominent teachers, legal practitioners, security personnel, clergy, local government officials, and civil servants. Successive governments have tried to revamp the school, but it still needs support.

These two schools were selected for the study because I have taught both and have some experience in their activities. Compared to the two schools for this study, PRESEC Legon has more resources and facilities in terms of classrooms, labs, and recreational centers than PRESEC La. PRESEC Legon and PRESEC La have a staff strength of 262 and 93, respectively. Regarding student demographics, PRESEC Legon currently has a total student population 5800, while PRESEC La has 1328 students. Both schools have the same good teacher resources regarding teacher quality since teacher recruitment in Ghana is based on the same qualification criteria. It must be emphasized that the study is not very interested in comparing the two schools' infrastructure and resources but in measuring the efficacy of a motivation policy in different academic settings.

For decades, PRESEC Legon and PRESEC La have been coping with a worrying issue—unimproved performance in getting A1 grades, notably in the geography subject. According to the PRESEC Legon records, even though the school has a glowing name, this unimproved performance in some of the subjects has been chronic since 1986, and its influence has almost resonated across the school, casting a shadow on the institution's reputation for academic brilliance and as "The Academic Pinnacle". As a geography instructor at PRESEC Legon between 2015 and 2023, I noticed, if not a downward trend, stagnation, or unimproved performance in geography concerning the number of students getting A1 grades in the

subject. Even though the general pass rate (A1 to C6) has been high, the number of A1 grades, which mainly influences candidates' chance to get admission into specific specialized programs that provide essential services and pay well after graduation, has not improved, as shown in **Table 2**.

Despite the school's rich history and dedication to creating a caring atmosphere, the geography subject's average pass rates of A1 grades remained a conspicuous worry. This problem lowered individual students' aggregate and academic development and threatened to tarnish the school's heritage and damage its reputation as a beacon of educational achievement in Ghana. As the national facilitator for "Teaching and Learning of Human Geography" at the SHS level, I constantly conscientized geography students on the great value of the subject in their lives. Also, workshops, seminars, quizzes, class exercises, and mock examinations for the students were intensified to raise their performance in the subject.

Despite these conscious efforts conservatively for six years, I realized a minimal improvement, which was insignificant to the effort employed. Recognizing the gravity of the issue, I made a strategic move in 2021 to implement a different motivation policy for the newly admitted students and follow it through until they write their external exit examination, that's WASSCE in 2023. Nevertheless, the old motivational approaches weren't relented. Permission was obtained from the school's authority to create a complete incentive policy for that batch. This effort is intended to reinvigorate the students' enthusiasm for studying and develop an atmosphere that would drive them to thrive academically. By taking a particular year group under my tutorage from year one and mentoring them through to year three, I was determined to reverse the subject's low-to-average performance trend and uncover their potential.

To achieve this, I instituted a financial reward policy for any student who will get an A1 grade in the geography subject. This intervention was planned because stagnation in academic performance might undermine the school's capacity to continue producing the next generation of leaders, ultimately limiting the country's growth and development. It is worth noting that the school has, in the past, made great and high-profile leaders whose positive impact on the government has been monumental. These personalities include the former Speaker of Parliament, Ministers of State, Parliamentarians, Teachers, Doctors, Ambassadors, Metropolitan/Municipal/District Chief Executives, CEOs of multinational companies and corporations, and many others. With this backdrop, a conscious effort should be made to continue the trend and build the promising nation we expect. Beyond the immediate effect on individual students and the school's ranking, this problem holds more significant ramifications for the Ghanaian educational system and society. Addressing this policy challenge with haste is about raising test results and possibly empowering young minds, creating a passion for learning, and providing them with the information and skills essential to empowering them to take the mantle of leadership in the future and navigating an increasingly complicated world.

In 2012, a focused motivation strategy was introduced at PRESEC La, and in 2021 at PRESEC Legon, aimed at improving the number of A1 grades in Geography subjects that have remained unimproved for a long time. This was experiential research because I used to be the subject teacher for geography at these two schools during the periods of experimentation. The policy sought to establish a friendly and caring atmosphere that would inspire students to thrive academically and enhance their performance in the WASSCE and beyond. The policy mainly concentrated on financial rewards for students to improve performance. This was to establish or refute the potency of extrinsic motivation on academic performance. An estimated cash prize of One Hundred Ghana cedis (GH¢100.00), equivalent to Ten US Dollars (\$10.00), was earmarked for every student in the subject who gets an A1 grade in the 2023 WASSCE as a motivation package. It is essential to mention that the same motivation policy was previously applied at PRESEC La in 2014 and 2015. At PRESEC La, the motivation prize for A1 grade at the time was Twenty Ghana cedis (GH¢20.00), equivalent to US Dollars (\$2.00).

Notwithstanding, other students' motivational support, such as emotional assistance and counseling services, was not relaxed. The school authorities have continued to educate teachers and staff to establish a loving and supportive school atmosphere, recognizing each student's needs and potential. Additionally, through the "Odadee Alumni & Mentorship Centre" at PRESEC Legon, the school has developed a mentoring program that matches students with outstanding alumni and professionals in the field, giving them role models and advice throughout their academic path. To further promote achievement, the school, through the government, covered bursaries, textbooks, and other educational expenditures as part of existing government policy. Recognizing the role of mental health in academic achievement, the two schools have a specialized counseling center for all students, including geography students. The counseling center provides individual and group counseling sessions, covering diverse topics such as stress management, study skills, and career advising. The multimodal motivating strategy, comprising emotional support, government assistance, and counseling services, has been created holistically to encourage students at PRESEC La and PRESEC Legon to enhance their general academic performance, specifically in the WASSCE. However, there was still not much improvement, especially in geography.

## **1.2. Research Objectives**

Holding all factors that enhance learning outcomes constant, the general objective of this study is to ascertain the efficacy of extrinsic motivation on academic performance. The following are the specific objectives of the study.

- 1) To evaluate the effectiveness or otherwise of extrinsic motivation policy on students' academic performance.
- 2) To identify specific factors that impact students' academic performance at the SHS level.
- 3) To suggest comprehensive recommendations for enhancing student motiva-

tion and academic achievement.

### 1.3. Theoretical Review

#### 1.3.1. Expectancy-Value Theory

The study adopted the Expectancy-Value Theory by Jacquelynne S. Eccles and Allan Wigfield as its theoretical underpinning. Expectancy-Value Theory offers a significant framework for studying the components that drive student motivation. This theory suggests that an individual's motivation is driven by two essential components: their expectation of success and the value they put on the job or result (Eccles & Wigfield, 2020). Students' motivation is affected by their conviction in their capacity to perform academically and the perceived relevance, usefulness, and interest they have in the subject matter (Rosenzweig et al., 2019). By studying these components, the Expectancy-Value Theory gives insight into the causes of schools' slow pace or unimproved academic performance concerning A1 grades (as seen in Table 2 & Table 3). It informed the creation of appropriate interventions to address this problem. The first component of the Expectancy-Value Theory, the expectancy of success, is especially relevant to the study of motivation and academic achievement in these two schools—PRESEC Legon and PRESEC La. Investigating elements that impact students' self-efficacy, such as past academic experiences, instructor feedback, and peer support, may give useful insights into their motivation and performance (Olivier et al., 2019). By identifying the reasons for low expectations of success, customized interventions such as financial rewards may be devised to raise students' confidence and cultivate a growth mindset, eventually leading to better academic performance (Yeager et al., 2019). This aligns with the policy intervention introduced for more A1 grades in the two schools under review. One of the rationales behind the push for A1 grades was that, as they try to get an A1, they will be better in the other grades: B, C, D, and E if they don't get an A1 grade.

The second component of the Expectancy-Value Theory, the value put on the job or result, is equally significant in explaining deteriorating academic performance. The value students attribute to their studies, including the perceived significance, usefulness, and intrinsic interest, may considerably impact their motivation and engagement (Guo et al., 2018). Factors such as the relevance of the curriculum to students' lives, the quality of instruction, and the availability of resources might impact students' judgments of the value of their education (Amoako et al., 2021). By evaluating these elements and their influence on student motivation, I may guide the creation of measures to promote the perceived value of education in the two schools. This may entail curricular modifications, professional development for instructors, and the availability of suitable learning tools to produce a more engaging and meaningful educational experience for students (Amoako-Atta & Asamoah, 2021).

#### 1.3.2. Self-Determination Theory (SDT)

Another theory relevant to this study, the Self-Determination Theory (SDT), es-

established by Edward L. Deci and Richard M. Ryan, is a significant paradigm for analyzing the elements that impact student motivation and academic achievement. SDT believes people have three essential psychological needs: autonomy, competence, and relatedness (Deci & Ryan, 1987). When these requirements are addressed, intrinsic motivation is encouraged, leading to higher engagement and performance (Vansteenkiste et al., 2020). Examining how the school environment and teaching techniques support or impede these fundamental psychological requirements may give useful insights into student motivation and academic achievement, driving the creation of effective treatments to address falling academic performance. Autonomy, the first fundamental psychological need defined by SDT, relates to an individual's feeling of choice and volition in their behaviors (Jang et al., 2019). Students with more autonomy in their learning are more likely to be genuinely motivated and interested in their studies (Cheon et al., 2019). Investigating elements that encourage or constrain student autonomy, such as teaching methods, classroom regulations, and chances for self-directed learning, might give information on the motivating issues encountered by students (Amoako et al., 2021). By building a more autonomy-supportive learning environment via techniques such as offering meaningful choices and promoting student involvement, the school may promote intrinsic motivation and improve academic achievement (Reeve & Cheon, 2021).

Competence and relatedness, the other two major psychological demands stressed by SDT, are equally significant in understanding the motivating dynamics. Competence relates to an individual's sense of mastery and efficiency in their actions, whereas relatedness belongs to the feeling of connection and belonging within a social setting (Ryan & Deci, 2020). Students' opinions of their competency and the quality of their interactions with professors and classmates may considerably affect their motivation and academic achievement (Raižienė et al., 2017; Zhen et al., 2017).

Ghana Education Service does not adhere to the SDT's paradigm of autonomy, competence, and relatedness to a large extent. This has lowered the potency of extrinsic motivation as an effective tool for motivating students to enhance academic performance. The study's recommendations could improve upon this challenge.

## **1.4. Literature and Conceptual Review**

### **1.4.1. Intrinsic and Extrinsic Motivation in Education**

Intrinsic and extrinsic motivation are key in molding students' engagement and academic achievement in educational environments. Intrinsic motivation refers to the urge to participate in an activity for its inner gratification, such as the joy of learning or the feeling of success from completing a tough task (Ryan & Deci, 2020). Intrinsic motivation could also be seen as a behavior that is driven by satisfying internal rewards. In intrinsic motivation, the cause of the behavior must be internal. It is associated with enjoyment and pleasure in the activity itself from

a genuine interest in a subject or activity rather than tangible rewards or anything materialistic.

On the other hand, extrinsic motivation is a type of identified motivation used to achieve personally endorsed goals (Deci & Ryan, 1987). They further considered it the drive to engage in an activity motivated by external factors such as rewards, recognition, or social pressure rather than personal interest or satisfaction. Generally, extrinsic motivation behaviors are driven by tangible external rewards or pressures. Examples of motivation that could be considered extrinsic include tangible rewards such as money, trophies, and certificates, intangible rewards such as recognition, praise, social media likes, social pressures resulting from expectations from others, peer pressure, and families, among others. Avoidance motivators that come out of fear of punishment, fear of bringing disrepute to one's family or organization, and fear of failure (Vansteenkiste et al., 2020) are also considered extrinsic motivation. This study emphasizes tangible rewards such as money.

Understanding the interaction between these two forms of motivation is vital for developing an ideal learning environment that encourages student achievement (Cheon et al., 2019). Intrinsic motivation has been consistently related to beneficial educational outcomes, such as improved academic success, increased perseverance, and deeper engagement with learning materials (Jang et al., 2019). Reeve & Cheon (2021) argue that fostering intrinsic motivation in the classroom involves providing students with autonomy-supportive learning environments, where they have opportunities to make meaningful choices, engage in self-directed learning, and receive constructive feedback that supports their sense of competence

While intrinsic motivation is preferable, extrinsic motivation may also play a role in student's academic achievement, especially when it is well-structured and matched with intrinsic objectives (Amoako et al., 2021). For example, giving students performance-based prizes or recognition might act as an initial spark for engagement, ultimately leading to the formation of intrinsic motivation (Osei-Owusu & Awunyo-Vitor, 2022). However, it is vital to ensure that extrinsic motivators do not weaken intrinsic motivation by moving the attention away from the underlying value of learning (Zhen et al., 2017). Educators might apply numerous tactics to enhance intrinsic and extrinsic motivation in the classroom successfully. These include providing students with meaningful and relevant learning experiences, fostering a sense of belonging and relatedness through positive teacher-student and peer relationships, and offering opportunities for students to demonstrate their competence and mastery (Amoako-Atta & Asamoah, 2021; Raižienė et al., 2017).

#### **1.4.2. Self-Efficacy in Academic Performance**

Self-efficacy, an individual's conviction in their capacity to effectively execute activities and attain desired results, plays a vital role in molding students' academic performance (Bandura, 1997). In the context of education, self-efficacy increases

students' motivation, tenacity, and, ultimately, their academic achievement (Schunk & DiBenedetto, 2020). Research has repeatedly established that students with greater levels of self-efficacy are more likely to set ambitious objectives, apply effective learning techniques, and display resilience in the face of academic failures (Zhen et al., 2017). As such, boosting self-efficacy among students is vital for enhancing their academic progress and general well-being. The development of self-efficacy in academic environments is impacted by several elements, including mastery experiences, social persuasion, and physiological and emotional states (Usher & Pajares, 2008). Mastery experiences, which relate to an individual's successful accomplishment of tasks, are regarded as the most potent source of self-efficacy (Talsma et al., 2018).

Social persuasion, another essential aspect of developing self-efficacy, entails obtaining encouragement and support from others (Ahn et al., 2017). Teachers, parents, and peers may favorably affect students' self-efficacy by expressing confidence in their talents and offering positive reinforcement (Affuso, Zannone, & Esposito, 2023). This encouraging atmosphere may assist students build a strong conviction in their academic potential and drive them to strive for achievement (Amoako et al., 2021). Negative emotions, such as worry and tension, might decrease students' self-efficacy and hamper their academic achievement (Huerta et al., 2017). Conversely, positive feelings, such as pleasure and pride, may boost students' self-efficacy and willingness to study (Putwain et al., 2017).

#### **1.4.3. Teacher-Student Relationships and Their Impact on Motivation**

Teacher-student connections are key in determining students' motivation and academic engagement. Positive and supportive interactions between instructors and students have been repeatedly connected to higher student motivation, greater academic achievement, and enhanced general well-being (Roorda et al., 2017). When students feel linked to their instructors and see them as caring and helpful, they are more likely to establish a feeling of belonging, participate in classroom activities, and endure in the face of academic problems (Lei, & Cui, & Zhou, 2018). Developing good teacher-student connections is vital for generating a stimulating and engaging learning environment that supports student achievement. Klem & Connell (2004) have argued that teachers who display warmth, respect, and empathy towards their pupils are more likely to develop good connections that enhance motivation and engagement in academics than teachers who are not. Additionally, instructors who give clear objectives, constructive feedback, and chances for student autonomy may further boost students' motivation and feelings of competence (Reeve & Cheon, 2021).

Effective communication ensures effective teacher-student interactions. Teachers who participate in open, honest, and respectful discussions with their students may establish a secure and supportive learning environment that stimulates student involvement and engagement (Osei-Owusu & Awunyo-Vitor, 2022). By actively listening to students' concerns, ideas, and opinions, instructors may build a feeling of trust and cooperation that drives students to take ownership of their

learning (Zhen et al., 2017).

Moreover, instructors who use positive and supportive language might assist pupils in establishing a growth attitude and persist despite academic problems (Olivier et al., 2019). Emotional support is vital for creating good teacher-student connections and fostering student motivation. According to Olivier et al. (2019), when instructors display real care and concern for their students' well-being, they may create a nurturing atmosphere that supports students' emotional needs and stimulates their drive to study.

#### **1.4.4. Parental Involvement and Support in Fostering Academic Motivation**

Parental participation and support play a significant role in nurturing kids' academic motivation and achievement. When parents actively participate in their children's education, students are more likely to have a good attitude towards learning, demonstrate greater levels of motivation, and achieve better academic achievements (Osei-Owusu & Awunyo-Vitor, 2022). When parents praise their children's effort, tenacity, and development rather than their intrinsic ability, they help them learn that intellect and skills can be improved through hard work and devotion (Yeager et al., 2019).

Effective communication between parents and teachers is another key part of parental engagement that enhances academic motivation. When parents and teachers routinely communicate information on kids' progress, problems, and triumphs, they may work together to establish a consistent and supportive learning environment that matches the requirements of each student (Sethi & Scales, 2020). Parents who offer a supportive and engaging home environment that values education and stimulates curiosity and inquiry may dramatically improve their children's motivation and academic achievement (Reeve & Cheon, 2021). By nurturing a passion for learning and exhibiting the real-world applications of education, parents may help their children develop intrinsic motivation and a strong sense of purpose in their academic efforts (Luo et al., 2020).

#### **1.4.5. Socioeconomic Factors on Student Motivation and Performance**

Socioeconomic considerations have a key impact in affecting student motivation and academic success. Students from low-income homes typically encounter specific problems that might impair their capacity to fully participate in their education and achieve academic excellence (Osei-Owusu & Awunyo-Vitor, 2022). These issues include restricted access to educational resources, insufficient nutrition, insecure housing, and high levels of stress and anxiety (Amoako et al., 2021). Moreover, kids from underprivileged backgrounds may lack the social and cultural capital that might aid academic achievement, such as parental participation, role models, and exposure to enriching experiences (Bourdieu, 1986). Consequently, socioeconomic disadvantages might lead to an increasing achievement gap between pupils from diverse social and economic origins (Amoako-Atta & Asamoah, 2021).

One primary way socioeconomic circumstances impact student motivation is through the formation of self-efficacy beliefs. Students from low-income homes may have fewer chances to experience academic accomplishment and get positive feedback from instructors and parents, adversely affecting their self-efficacy (Luo et al., 2020). Moreover, students from underprivileged backgrounds may absorb negative preconceptions about their talents and potential, thus diminishing their motivation and engagement in learning (Wassenaar et al., 2020).

Another major aspect that ties socioeconomic position to student motivation and performance is the quality of the educational environment. Schools in low-income communities mostly have fewer resources, less experienced instructors, and bigger class sizes, which may significantly influence students' learning experience and results (Amoako-Atta & Asamoah, 2021). Moreover, schools serving disadvantaged populations may have a less pleasant and supportive atmosphere, defined by poorer levels of trust, safety, and belonging, which diminishes student involvement, motivation, and academic accomplishment (Luo et al., 2020).

Socioeconomic variables may impact student motivation and performance via the larger social and cultural environment in which education occurs. In many societies, education is seen as a key pathway to social mobility and economic success, and students from disadvantaged backgrounds may face additional pressure to succeed academically to overcome the barriers associated with their social and economic status (Osei-Owusu & Awunyo-Vitor, 2022). At the same time, kids from low-income households may have fewer role models and mentors who may give direction and support in navigating the school system and accomplishing their objectives in real-life situations (Wassenaar et al., 2020).

#### **1.4.6. Teaching Strategies for Promoting Student Engagement and Motivation**

There are identifiable teaching strategies that could promote student engagement and motivation. Effective teaching practices are key to fostering student engagement and motivation in the classroom. Educators who apply evidence-based tactics may create a dynamic and engaging learning environment that captivates students' interests, supports their intrinsic drive, and encourages active involvement (Hattie & Donoghue, 2018). Using real-world examples, case studies, and problem-based learning activities, instructors may help students recognize the value and relevance of their learning knowledge, enhancing their desire to interact with the topic (Amoako et al., 2021).

Another successful teaching method is to establish a feeling of autonomy and choice in the learning process. When students can make choices about their learning, such as picking themes for projects or choosing between multiple assessment alternatives, they are more likely to feel empowered and inspired to take control of their education (Reeve & Cheon, 2021). Collaborative activities, such as group discussions, peer tutoring, and project-based learning, may build a feeling of community and belonging in the classroom, which is vital for student motivation and

engagement (Zhen et al., 2017).

Finally, offering timely and constructive feedback is a vital teaching method for fostering student involvement and motivation. Clear, practical, and focused growth and progress feedback may help students recognize their strengths and areas for development, create objectives for future learning, and build a feeling of competence and self-efficacy (Hattie & Timperley, 2007). Teachers may employ a range of feedback tactics, including formative assessments, one-on-one conferences, and peer feedback sessions, to give students frequent opportunities to hear and act on feedback (Amoako-Atta & Asamoah, 2021).

#### **1.4.7. Goal Setting and Feedback in Enhancing Academic Performance**

Goal setting and feedback are key to increasing students' academic success. When students create clear, explicit, and demanding objectives for their learning, they are more likely to be motivated, engaged, and focused on their academic work (Locke & Latham, 2022). Teachers can support students in setting effective goals by providing guidance on how to create SMART (Specific, Measurable, Achievable, Relevant, and Time-bound) goals, encouraging students to set both short-term and long-term goals, and helping them develop action plans to achieve their objectives (Amoako et al., 2021).

Effective feedback is immediate, precise, and constructive, concentrating on the work and the process rather than the person (Wisniewski et al., 2020). When students get frequent, high-quality feedback, they are better equipped to assess their learning, change their techniques, and progress toward their objectives (Osei-Owusu & Awunyo-Vitor, 2022). Feedback should be offered often, utilizing various techniques and sources, and should be followed up with chances for students to act on the feedback and show their learning (Wisniewski et al., 2020).

## **2. Methodology**

This section addresses the approach and design employed in the conduct of the research. Apart from the study's experiential research approach, a mixed-method approach was also adopted to thoroughly meet the study's goals. Experiential research is a research approach that focuses on understanding and analyzing individuals' personal experiences and subjective perceptions. It typically relies on qualitative methods such as interviews, focus groups, and observations to collect data about the group/participants' lived experiences. An explanatory sequential mixed method approach was used. This approach started with quantitative data collection and analysis in the first phase, followed by qualitative data collection in the second face to help explain or elaborate on the quantitative findings (WASSCE results data). The qualitative phase has been used to explain, interpret, or expand upon the quantitative results. This was ideal because the study wanted to understand how WASSCE results emerged from the quantitative phase. The mixed method approach enabled the study to acquire rich, in-depth insights from qualitative data while simultaneously using the strength of quantitative data to meas-

ure the effect of the policy on academic achievement over time.

### **2.1. Target Population and Sample Size**

Even though the study largely centered on the quantitative data from the students' WASSCE examination and the lived experiences of the instructor-researcher to determine the effectiveness or otherwise of extrinsic motivation, there was the need to get other respondents from relevant educational players, including instructors, administrators, parents and students at these two schools. This is to evaluate other factors that may impact students' academic performance to complement the available quantitative data and the researchers' experience. The interviews aimed to obtain specific information regarding the impact of teacher-student relationships on academic performance, the influence of motivation on students, access to learning resources, study habits, and time management, among others. 24 relevant educational stakeholders were sampled for the expert interviews. Out of the total staff population of 355, simple random sampling was used to select 10 instructors, and two administrators from the two schools were purposely sampled. In addition, three parents and three students from each of the two schools were randomly selected. Face-to-face interviews were conducted with the respondents, except three parents and two teachers whose interviews were conducted on the phone. All interviews were recorded with the consent of the respondents. The sample size was influenced by the fact that the study's relevant stakeholders (instructors, administrators, and students) may have similar responses since they are in the same settings, and large numbers may not provide different responses/experiences.

The qualitative data acquired during the interviews were transcribed and processed using thematic analysis methods to uncover common themes and patterns. This technique provided essential context and refinement to understanding the numerous elements driving student success. Descriptive and inferential statistical analyses were done on students' WASSCE scores from 2013 to 2015 at PRESEC La and 2016 to 2023 at PRESEC Legon. The data were grouped and presented using descriptive statistics. Based on the insights gathered from my lived experience and quantitative analyses, I generated a series of evidence-based reasons to promote student motivation and improve academic performance at the two schools and perhaps other comparable educational institutions in Ghana. These results evaluated the unique context and problems found during the research and tried to give practical techniques for building a supportive and engaging learning environment that supports student achievement.

### **2.2. Data Source**

The research relies on both primary and secondary data sources to establish the authenticity and trustworthiness of the results. Primary data were acquired via semi-structured interviews with key stakeholders, including instructors, administrators, parents and students at the two schools. These interviews gave first-hand

reports and insights into the factors that impact students' academic performance and the perceived efficacy of extrinsic motivation. Secondary statistics were acquired from the schools' records, especially the students' WASSCE grades released by WAEC. These official records offered an objective measure of academic achievement over time, allowing for a realistic evaluation of the influence of the motivating policy on student results. The mix of primary and secondary data sources increased the validity of the study's results and ensured a full grasp of the research topic.

### 3. Results and Discussion

This section discusses the study's quantitative and qualitative data analysis. It discusses the extent to which the implemented policy is effective, factors that impact students' academic performance, and suggested recommendations to stakeholders and policymakers.

#### 3.1. Quantitative Analysis

##### The Effectiveness of the Implemented Extrinsic Motivation Policy

**Table 2.** Analysis of geography performance in WASSCE result from 2016-2023 for Presbyterian boys' secondary School-Legon, Accra-Ghana.

Year	Total Candidates	Total Present	% Passed (A1-C6)	Total Passed (A1)	Mean % A1
2016	200	173	95.00	54	27.00
2017	166	157	64.46	7	4.22
2018	88	83	83.52	26	28.57
2019	159	159	94.97	44	27.67
2020	174	174	95.98	25	14.40
2021	286	286	85.00	58	25.00
2022	214	214	99.50	66	30.37
2023	250	250	100.00	154	61.20
2024	263	263	100.00	88	33.46

Source: West Africa Examination Council (WAEC). <https://waecgh.org>.

Policy implementation year.

It should be emphasized that the implemented motivation policy targeted A1 passes only. From **Table 2** above, the total number of candidates fluctuated over the years, with the highest being 286 in 2021 and the lowest 88 in 2018. The percentage of students who passed (grades A1-C6) remained high throughout the years, with the lowest being 64.46% in 2017 and the highest being 100% in 2023 and 2024. The motivation policy resulted in a 100% pass rate because as every candidate was trying to get an A1 grade, the more they were unlikely to get an F9, which is a failure. In essence, the below-average students pushed themselves to

average and even beyond with the hope of getting the prize. In the same way, the average students also moved to above average, and finally, the above average continued to maintain their excellent performance.

The mean percentage of students achieving A1 grades varied significantly, from the lowest 4.22% in 2017 to the highest 61.20% in 2023. The percentage of students' general passing rate increased from 99.50% in 2022 to 100% in 2023, suggesting a potential positive impact of the extrinsic motivation policy on academic performance.

In 2023, the year the extrinsic motivation policy was implemented, the school recorded a 100% pass rate (grades A1-C6) in geography, with the highest mean percentage of A1 grades at 61.20%. The total number of candidates who obtained A1 grades was 154 out of 250 registered candidates for the WASSCE. This makes 2023 the year with the highest number of A1 grades in geography since the school's inception in 1938. The analysis reveals that the school maintained a high pass rate throughout the years, with a notable increase in the percentage of students achieving A1 grades in 2023, the year the motivation policy was implemented.

The 2024 data, which show 88 A1 grades, make extrinsic motivation an undeniable fact that it increases academic performance. It must be emphasized that the motivation policy was not implemented in 2024, possibly reducing the number of A1s from 154 in 2023 to 88 in 2024. It should be noted that a different teacher handled the 2024 batch. More context analysis is needed to analyze this in future studies.

**Table 3.** Analysis of geography performance in WASSCE result from 2013-2015 for Presbyterian senior high school-la, Accra-Ghana.

Year	Total Candidates	Total Present	% Passed (A1-C6)	Total Passed (A1)	Mean % A1
2013	81	81	70.37	0	0
2014	108	108	55.55	6	5.55
2015	53	53	22.79	6	11.32

Source: West Africa Examination Council (WAEC). <https://waecgh.org>.

Policy implementation year.

At PRESEC La, the policy was implemented in 2014 and repeated in 2015. This is not too different from PRESEC Legon in terms of registered candidates. The total number of candidates at PRESEC La also varied significantly over the years, ranging from the lowest 53 in 2015 to 108 in 2014. The percentage of students who passed (grades A1-C6) was high in 2013, average in 2014, and low in 2015, even though the number of A1 grades increased in 2014 and 2015, as seen in **Table 3**. The mean percentage of students achieving A1 grades increased significantly over the years, ranging from the lowest of 0% in 2013 to 5.55% in 2014 and 11.32% in 2015. Interestingly, the percentage of students who passed (grades A1-C6) de-

creased from 55.55% in 2014 to 22.79% in 2015, yet the number of A1 grades in those years increased. This proves the efficacy of the policy intervention adopted.

Furthermore, the motivation policy was introduced in 2014, with 6 students obtaining grade A1. It was repeated in 2015 with the same number of students obtaining grade A1. The analysis reveals that in the years the motivation policy was implemented, the number of students who obtained grade A1 shot up from 0 to 6 in both years, even though the pass rates for these years were generally low. It is clear from the analysis that the motivation policy significantly positively affected the number of candidates who obtained A1 grades in the subject. Data from the policy implementation years in **Table 2** and **Table 3** clearly indicate that extrinsic motivation caused high academic performance.

### 3.2. Qualitative Analysis

This section narrates factors that impact students' performance at the SHS level. It also considers the impact of motivation in general, but much emphasis will be placed on extrinsic motivation on academic performance.

#### Factors that Impact Academic Performance at the SHS Level

The research primarily focused on financial rewards. That notwithstanding, other forms of extrinsic motivation, such as recognition or praise, were not ignored as part of the intervention. Several factors positively or negatively impact student academic achievement at the SHS level. It must be emphasized that even though extrinsic motivation in the form of financial reward has resulted in high academic performance in this study, a single motivation policy does not totally cause that. Other factors influence academic performance. The expert interviews and my observed experience study have unveiled some of these factors.

##### 1) The Impact of Teacher-Student Relationships on Academic Performance

The study uncovered a strong correlation between teacher-student relationship and academic performance. The strong teacher-student relationship during my teaching and learning interactions yielded a positive result in 2014 and 2023. **Hagenauer & Volet (2014)** opined that several aspects, including teaching behaviors, communication styles, and emotional support, determine teacher-student interaction quality. As the subject teacher who doubles as a class adviser, I created a quality teacher-student relationship that gave students a more friendly and comfortable environment for learning. Specifically, the students had unlimited access to the geography laboratory and other resources to discuss their concerns in groups and individually. This helped to develop a customized teaching strategy that met their individual learning needs. This confirms the claim by **Klem & Connell (2004)** that teachers who display warmth, respect, and empathy towards their pupils are more likely to develop good connections that enhance motivation and engagement in academics than teachers who do not.

Effective communication is another key component identified as an effective student academic enhancement tool. Teachers who participate in open, honest,

and respectful discussions with their students may establish a secure and supportive learning environment that stimulates students' involvement and engagement (Osei-Owusu & Awunyo-Vitor, 2022). This assertion turned out to be positive. To develop effective, holistic communication with the students and their parents, I created a group WhatsApp platform for all parents whose children are doing geography in the targeted year batch. This platform allowed me to discuss specific issues that needed attention with the parents concerned. These open communications created cordial teacher-parent-student interactions in academic, moral, economic, and psychological aspects. Most parents reported the progress and or otherwise of the children observed during their study program. This gave me a complete idea of what teaching and learning strategy to adopt at a particular time. This resulted in tremendous academic improvement.

Additionally, instructors encouraging and applauding students' triumphs and development might further boost their motivation and accomplishment (Lau et al., 2018). The study confirmed the notion of Lau et al. (2018). To promote continuous zealotness among the students in the geography subject and to achieve high academic performance, I adopted a slogan—*Geography in You.....*, and the students will respond—*The Hope of the World*. This was to be used regularly in classes and course programs. This strategy rang an assiduous bell in their minds by letting them know that the subject they are learning will lead them to a "brighter and glorious future," This indeed ensured high performance eventually. By focusing on encouragement, emotional support, and creating strong, positive connections with the students, I made a stimulating and engaging learning environment that promoted high academic performance and general well-being among the students at the end of their study program.

Another impactful strategy I adopted that promoted insightful learning was what I termed *coach tutoring*. By doing this, I provided clear topics, instructions, and guidance to a group of students (usually four in a group). The group is allowed to prepare for the assigned topic and teach the lesson to their peers in class under my supervision. This approach helped me to provide individualized instruction and feedback to these students. It was realized that this strategy helped the students to understand and master key geography concepts that improved their learning skills and enhanced their critical thinking and problem-solving abilities. Ultimately, students' confidence and motivation were boosted to achieve academic success that met their goals. By providing tailored coach support and guidance, coach tutoring can help learners overcome challenges in their field of study, develop confidence and a growth mindset, and eventually reach their full potential. This is in line with Reeve & Cheon (2021), who argued that when students can choose their learning, such as picking themes for projects or choosing between multiple assessment alternatives, they are more likely to feel empowered and inspired to take control of their education.

To promote a culture of continuous improvement that stimulates students to engage fully with their learning and strive for academic achievement, I cultivated

a habit of providing a prompt, feedback-rich learning environment that stresses development and progress. Even though I handled at least 240 students in the PRESEC Legon at one time and an average of 150 at a time at PRESEC La per semester, I could provide timely individual feedback on assignments, class exercises, projects, and terminal examinations. This not only provided students with the opportunity to know their strengths and weaknesses promptly but also enabled them to get a clear focus on what to do and expect in future assignments. This is consistent with Osei-Owusu & Awunyo-Vitor (2022), who argue that when students get frequent, high-quality feedback, they are better equipped to assess their learning, change their techniques, and progress towards their objectives.

The rationale behind creating quality teacher-student relationships, developing effective communication, encouraging and applauding students' triumphs, and providing coach tutoring was to ensure that the financial reward system did not inadvertently cause negative academic pressure among students but had a relaxed environment and motivation to learn even without extrinsic motivation. In this sense, career achievement and job prospects were the topmost conversations to divert their attention from the mere financial gains from the policy. Extrinsic motivation established causation because the aforementioned strategies have been in place; meanwhile, performance remains unimproved. It should be mentioned that these teaching strategies helped to achieve the desired results.

## 2) Motivation and Engagement of Students

According to the participants, one significant factor that negatively impacts academic performance is students' lack of motivation and engagement. This subject—motivation and engagement is vital to grasp since it directly affects students' academic achievement and general well-being. The participants expressed their ideas and experiences, highlighting the elements leading to this problem. It should be mentioned that the respondents have used pseudonyms by giving them numbers instead of their real names. Participant 1 emphasized the role of intrinsic motivation, stating, "*Students who lack a genuine interest in their studies often struggle to maintain their focus and dedication.*" This observation aligns with the findings of Ryan and Deci (2020), who argued that intrinsic motivation is a key driver of academic success. Students who are not intrinsically driven to study may find it challenging to engage in their curriculum and continue in the face of problems.

Participants were highly optimistic about high outcomes when extrinsic motivation is efficiently applied. One of the assistant heads referred to extrinsic motivation as a "results inducer", meaning it can stimulate students to perform at an even higher level than they usually can. She noted that students' propensity to do that task increases when they know they can get a tangible reward, such as cash or kind. The Academic head of PRESEC Legon confirmed that the 2023 results remain the single result with the highest number of A1 grades produced in the geography subject's history since the school's inception in 86 years. Also, when asked by the Data and Examination Analyst of PRESEC Legon about his impression on the 2023 WASSCE results for geography, he commented that:

I'm impressed about the unprecedented performance in geography subject this year. I believe that the cash reward placed on an A1 grade significantly impacted the results because most students mostly have little or no money in their pockets in school. Their parents usually buy their provisions and other stuff and leave them with little or no money, hoping the school dining service would be available, which shouldn't be the case. Winning a GHc100.00 prize means a lot to these students, hence, this impressive performance (Field survey, 2023).

The results of this study and the assertions of some respondents were not different from those of [Osei-Owusu and Awunyo-Vitor \(2022\)](#), who argued that giving students performance-based prizes or recognition might spark engagement, which may lead to improved performance.

Participant 3 highlighted the impact of external factors on student motivation, noting, "*Many students face personal or family issues that can distract them from their studies and reduce their engagement.*" This sentiment is supported by [Maslow's work \(1943\)](#), which proposed that individuals must meet their basic needs before focusing on higher-level pursuits, such as education. When students focus on personal issues, it might be difficult to participate in their academic obligations fully.

Participant 4 addressed the influence of the school environment on student motivation to learn, saying, "*Definitely, students feel distracted by the activities surrounding this school. We have information centers, a market, a lorry station just behind the school's walls, and the main La to Circle Road that passes in front of the school's main gate. With these, their motivation to learn can suffer from distraction.*" This observation is consistent with the findings of [Goodenow \(2023\)](#), who emphasized that serenity within the school's community enhances student learning. The study discovered a sharp contrast between the two schools under consideration regarding environmental serenity. PRESEC La is predominantly a community school, and it is located at the center of the indigenous La community, hence noise making control around the school is almost impossible. On the other hand, PRESEC Lagon largely has a conducive environment for academic work. Even though it is located between the University of Ghana, East Lagon, and Madina Estate, these communities mostly with well-planned residential areas, institutions and offices, and businesses where noisemaking is moderated to some extent. Also, the vast nature of the school's campus shields it from surrounding noise and interference as it is located within the center of its vast land. It is important to emphasize that when students do not feel focused and concentrate due to distractions, their academic propensity is thwarted, and they may struggle to find the drive to engage in their learning actively.

An administrator of one of the schools touched on the influence of teaching methods on student motivation. The respondent emphasized that when teachers engage in teaching strategies, including interactive learning, it can help spark stu-

dents' interest and motivate them. The administrator further observed that when students are subjected to dull or passive learning situations, they may struggle to sustain their interest and excitement for their studies. This observation aligns with the findings of Blumenfeld et al. (2021), who suggested that instructional practices that promote active learning and student involvement can foster motivation and engagement. I adopted the "one student-one good map at the geography laboratory" strategy to make teaching interactive. Since students were willing to have their maps with their names on them that will be kept at the geography laboratory for future reference, they tried their best to draw reasonable maps. This improved their map drawing skills, complementing the policy to ensure more A1 grades in WASSCE. Also, group presentations that were introduced in the two schools encouraged research and teamwork.

### 3) Limited access to learning resources

The students discussed their insights and experiences, stressing their problems obtaining crucial learning resources. One of the students lamented the disparity in resource availability in schools. When commenting on this, he stated that some students have access to a wide range of learning resources while others struggle to obtain even the most basic materials. He attributed the disparity in school resources to the Ghana Education Service's (GES) categorization of schools. It should be noted that the GES has classified SHS in Ghana into categories A, B, C, and D. A student lamented:

If you classify one school as A, another as B, and another as C and D, it creates the impression that the A schools are better than D schools, and I think we must do away with this categorization. This implies the government injects more resources into category A schools than the rest (Field survey, 2023).

Interestingly, other student respondents from these two schools expressed their worry about categorizing schools in Ghana. This observation aligns with the findings of UNESCO (2021), which reported that many students worldwide lack access to essential learning resources, such as textbooks, computers, and internet connectivity. I uncovered vast differences in school facilities and resources. While PRESEC Legon has computer, science, visual arts, and general arts laboratories and resource centers with internet connections, good classroom blocks, standard field for various sporting disciplines, dining facilities, and an assembly hall, PRESEC La, on the other hand, has little to none of these educational resources. I argue that school categorization in Ghana has almost come to stay, but educational cake could be shared proportionately to benefit all schools.

Participant 2 discussed the impact of socioeconomic factors on resource access, noting, "*Students from low-income families often face greater challenges in acquiring the necessary learning materials.*" This sentiment is supported by the work of Sirin (2015), who found that socioeconomic status is a strong predictor of academic achievement. Parents of underprivileged families may struggle to purchase the requisite textbooks, computers, or supplemental resources for their wards,

putting them at a disadvantage compared to those in the high-income class. Socioeconomic background disparity was identified in this research concerning the two schools under consideration. While most students at PRESEC Legon are from well-to-do families whose parents can meet their children's educational needs, most students at PRESEC La are from low-income earning brackets. Some students the study found were responsible for their academic and other needs. Such students would be highly motivated to study harder if motivational interventions such as the one introduced in the two schools in this study were in place. Educators should, therefore, be intentional in motivating their students.

#### **4) Poor study habits and time management**

Another topic from the interviews that impacted students' academic performance was the prevalence of poor study habits and time management concerns among students. A teacher participant on study habits and time management emphasized the lack of consistent study routines. The participant stated that many students struggle to establish and stick to regular study schedules, often leading to last-minute cramming and ineffective learning. The participant further mentioned that last-minute preparation or learning is the cause of what he termed in the local parlance "*babadie*", which means rote learning or memorization within a limited time. This observation aligns with the findings of [Dunlosky et al. \(2013\)](#), who stressed the importance of distributed practice and regular review for long-term retention of information. They argue that when students allocate realistic time to their studies, it helps them to absorb and retain what is learned. Educators should, therefore, guide students on time management to help them assimilate learning information to influence their retention. Participant 2 discussed the impact of procrastination on academic performance, noting, "*Students who habitually procrastinate their studies often find themselves overwhelmed and unable to complete assignments or prepare adequately for exams.*" This sentiment is supported by the work of [Steel \(2017\)](#), who found that procrastination is a common problem among students and is associated with lower academic achievement. When students routinely postpone their study assignments and obligations, they may face more stress in completing academic tasks and struggle to perform at their best. Regular reminders on assignment due dates will go a long way to help students overcome procrastination.

Participant 3 was asked to address the role of distractions in hindering effective studying. In his comment, he stated, "*In today's digital age, students often face numerous distractions, such as social media and online entertainment, which can interfere with their ability to focus on their studies.*" He further pointed out, "*As an experienced teacher, I can say that social media distractions or not being disciplined in the usage of electronic gadgets have reduced some above-average students to average or below-average.*" This observation was not different from the findings of [Junco and Cotton \(2012\)](#). Junco and Cotton have reported that multitasking with electronic devices during studying is associated with a lack of concentration, leading to poorer academic outcomes. Even though social media and

online stuff play a critical role in students learning in this technological era, when they cannot handle the distractions from these resources efficiently, they may find it challenging to sustain the attention and focus essential for productive learning. The policy “No student mobile phone usage on the PRESEC campus” has curbed learning distractions among PRESEC Lagon students, improving academic performance. These phone usage regulations could be applied to different settings to minimize student distractions.

### 5) Socioeconomic challenges

Socioeconomic challenges tremendously impact academic performance as they show the inequities and barriers experienced by students from underprivileged backgrounds. The participants contributed their findings and ideas, offering light on how socioeconomic variables might negatively impact children’s capacity to advance academically. Participant 1 emphasized the financial constraints experienced by many students, especially those within the low-income bracket. He noted that students from low-income families often struggle to afford the necessary educational resources, such as textbooks, technology, and tutoring services. He further mentioned that since substantial knowledge is obtained from these educational resources, their absence in a student’s academic life has a tremendous negative impact on the learner. This observation aligns with that of Sirin (2015), who also found that socioeconomic status strongly predicts academic achievement. It is important to emphasize that when students lack access to critical learning resources and support services due to budgetary limits, they may struggle to stay up with their assignments and achieve them in their studies. Parents should be conscious of their ward’s educational needs.

Participant 2 discussed the impact of parents’ or family’s financial wellness and responsibilities on students’ academic pursuits, noting, “*Many students from disadvantaged backgrounds have to balance their studies with part-time jobs or caring for family members, which can limit their time and energy for academic work.*” This sentiment is supported by the work of Goldrick-Rab (2016), who found that students from low-income families often face competing demands on their time and resources, which can hinder their motivation and ability to engage in their education fully. Goldrick-Rab (2016) further argues that parents’ financial state contributes to how well or otherwise they can take care of their children’s needs. To support this literature, I identified some students at PRESEC La who worked after school as “trotro”/commercial driver’s mates to care for their needs and families. The reality is that when students are burdened with extra duties outside of school, it puts much pressure on them, and they may struggle to commit to the required time and attention to their academics. In this situation, an extrinsic motivation intervention policy in the form of cash will go a long way to motivate such students to do their best to win such cash prizes to cushion their financial stress.

Participant 3 addressed the role of neighborhood and community factors in shaping academic performance and educational opportunities. He acknowledged

that “*students from disadvantaged communities may have limited access to high-quality schools, enrichment programs, and mentorship opportunities, which can impact their academic trajectories.*” This observation is consistent with Sampson, Morenoff, and Gannon-Rowley (2022) findings, who reported that neighborhood characteristics, such as poverty and social disorganization, can influence educational outcomes. When students are exposed to resource-poor situations and lack access to support networks, they may encounter extra challenges to academic achievement. The study unveiled that the “Odadee Alumni & Mentorship Centre,” established as a model center for counseling, coaching, and training of present and past students of PRESEC Lagon, has significantly influenced students’ academic achievement and future careers. This center matches students with outstanding alums and professionals in the field, giving them role models and advice throughout their education and beyond. Other schools can create such avenues to improve the educational outcomes of students.

While this paper recognizes the balance between intrinsic and extrinsic motivation, it also acknowledges the potential drawbacks of financial rewards for students. Osei-Owusu and Awunyo-Vitor (2022) have argued that extrinsic motivation can cause dependency and reduce intrinsic motivation over time. Knowing this, the study introduced students to a blend of extrinsic and intrinsic motivation, and they saw both as rewarding, such as getting admission into higher institutions and getting brighter job prospects in the future.

### **3.3. Impact of the Motivation Policy on the Candidates**

Interestingly, most students could apply the strategies they learned from geography class to other subjects they offered. Even though statistics have shown geography to be the subject with the highest number of A1 grades in 2023 among the elective courses offered by these same students in PRESEC Lagon, there were reasonable numbers of good passes in all the other elective subjects they offered. To assess the impact of the motivation policy on the candidates, a WhatsApp platform was created for the 2023 batch of geography students to monitor their progress even after WASSCE. The existing platform with their parents and social networking made this possible. Information gathered from the candidates on the group platform supported by their parents indicates that at least 80% of the 2023 graduates who studied geography, among other subjects, have enrolled in tertiary education institutions in Ghana, the UK, and the USA as of September 2024. This was made possible because a very high number of candidates met the prescribed minimum entry requirement to progress to any tertiary level of education as stipulated by the Ghana Tertiary Education Commission (GTEC). According to GTEC, a candidate must obtain grades A1 and C6 in all the required subjects to gain admission into any tertiary-level education in Ghana. This impressive advancement in their educational journey confirms the efficacy of extrinsic motivation on academic performance. Based on quantitative and qualitative data analysis, my experiential learning, and evidence from the candidates, it can therefore

be concluded that the implemented extrinsic motivation policy (where a cash prize was placed on any A1 grade in geography) has a positive impact on academic performance at Senior High School (SHS) level and beyond.

To fulfill the policy's promise and motivate the would-be students, the policy's awards were presented publicly to the deserving students. The motivation package for PRESEC La was awarded to deserving candidates in 2014 and 2015 on a stipulated day after the WASSCE. The policy award for PRESEC Legon was presented to the deserving candidates after their WASSCE at the school's 86<sup>th</sup> Speech & Prize Giving Day in November 2024. Inserts are the excerpts of the presentation (**Figure 1**).



**Figure 1.** Presentation of the policy's award at the 86<sup>th</sup> Speech & Prize Giving Day at PRESEC Legon, Accra, Ghana.

### 3.4. Recommendations for Enhancing Student Motivation and Academic Achievement

Based on the study's findings, it has suggested the following recommendations to policymakers, education stakeholders, civil society organizations, teachers, parents, and individuals.

- 1) Targeted school interventions like this policy are needed to boost student motivation and engagement. These interventions can include personalized learning experiences, project-based learning, and mentorship programs that connect students with role models and professionals in their areas of interest.
- 2) There is a need to provide professional development opportunities for teachers to enhance their skills in creating engaging and interactive learning experiences that cater to diverse learning styles and promote active participation.
- 3) School management and teachers should establish a comprehensive study skills and time management training program for students. This could be integrated into the school curriculum to equip them with the tools and strategies necessary for effective learning and academic success. Also, school management should recognize the efforts of teachers by giving them tangible rewards such as money, citations, certificates, and recognition. This will go a long way to motivating them and allowing them to encourage students.

4) Schools should develop partnerships with community organizations, businesses, and higher education institutions to provide students with access to enrichment programs, internships, and career guidance, particularly for those from disadvantaged backgrounds.

5) The government should implement a school-wide initiative to promote a supportive and inclusive learning environment that addresses the psychological impact of socioeconomic challenges and fosters a sense of belonging and self-belief among all students.

6) To encourage extrinsic motivation among teachers, the government should increase teachers' salaries and conditions of service to position them financially and motivate their students.

7) Categorization of schools into categories A, B, C, and D should be discouraged. This categorization has widened the status gap among schools, with some classified as more reputable and resourceful than others.

This study significantly contributes to knowledge as its findings have practical implications for educational policy and practice in Ghana and similar settings. Understanding the positive relationship between motivation and academic performance can guide school administrators, policymakers, and educators in developing strategies to enhance student motivation, which could lead to improved educational outcomes. It provides evidence for policymakers to advocate for motivational programs, teacher training, and student engagement strategies that can foster a learning environment that supports and nurtures motivation.

The study further contributes to the global literature on motivation by applying it to a Ghanaian educational context, where distinct cultural, socio-economic, and educational factors influence student motivation and academic performance. While motivation is a well-researched area globally, studies often focus on Western or more developed educational systems. Focusing on Senior High Schools in Ghana, the study fills a gap in understanding how local contextual factors—such as community, cultural norms, or access to resources—affect the relationship between motivation and academic outcomes. It provides insights into how motivation theories, such as intrinsic and extrinsic motivation, operate within the specific educational environment of Ghana, where factors like family support, economic challenges, and national educational policies play a role.

The study also reinforces the finding that motivation positively impacts academic performance, a well-established concept in educational psychology. However, providing empirical evidence from a developing country like Ghana strengthens the generalizability of the claim that motivation plays a key role in academic outcomes. Focusing on two senior high schools in Ghana, this study provides specific evidence from a contextualized sample, allowing for comparative analysis and cross-cultural exploration of motivation's effects.

Lastly, this study contributes to new knowledge in education by providing context-specific insights into the relationship between motivation and academic performance in Ghanaian Senior High Schools. This helps bridge the gap between

universal motivational theories and localized educational practices, offering empirical evidence useful for educators, researchers, and policymakers. The study confirms existing knowledge about the role of motivation but also highlights the unique contextual factors that influence it in Ghana, ultimately contributing to the broader field of educational psychology and international education research.

### 3.5. Limitations of the Study

While this study provides valuable insights, it is essential to acknowledge its limitations. The study was conducted within two school settings, which may limit the generalizability of the findings to other educational contexts. Again, the study relied on self-reported data from school administrators, teachers, and students. These may be subjected to response bias and social desirability bias. Additionally, the study's cross-sectional nature does not allow for causal inferences, as it only captures a snapshot of the participants' experiences at a specific time. Future research could address these limitations by conducting larger-scale studies across multiple schools, employing longitudinal designs to examine the long-term impact of the identified factors, and incorporating more objective measures of academic performance and other variables of interest.

## 4. Conclusion

The analysis revealed significant relationships between motivation and learning outcomes. Extrinsic motivation has proven to be influential on academic performance. The study indicates that higher motivation levels, access to learning resources, effective study habits, and better time management skills are positively associated with improved academic performance. Conversely, socioeconomic challenges were found to harm students' educational outcomes. The experiences and insights shared by the participants further illuminated the complex interplay of these factors in shaping students' academic success. The lack of motivation and engagement, limited access to learning resources, poor study habits and time management, and socioeconomic challenges emerged as significant barriers to academic achievement. The participants' narratives highlighted the need for targeted interventions, support systems, and policies that address these challenges and promote equity in education.

This study provides evidence to inform educational policies and practices at Presbyterian Boys' Secondary School, Legon, and Presbyterian Senior High School, La, and beyond. The findings underscore the importance of adopting a holistic approach that considers the multifaceted nature of students' challenges and the need for comprehensive strategies to support their academic growth and success. Context factors, such as educational infrastructure and resources, to some extent influenced the results. Apart from the policy's influence, the availability of quality educational resources like labs and science resource centers enabled PRESEC Legon to get more A1s than PRESEC La. Therefore, a single motivation policy

does not work effectively, but combining it with other motivation strategies can significantly impact it.

### Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

### References

- Abaidoo, P. K. (2004). *Educational Brief Notes for the Higher Rank Aspirant* (3rd Ed., pp. 9-23). Unpublished Hand Book for the Higher Rank Teachers, Ghana.
- Affuso, G., Zannone, A., Esposito, C., Pannone, M., Miranda, M. C., De Angelis, G. et al. (2023). The Effects of Teacher Support, Parental Monitoring, Motivation and Self-Efficacy on Academic Performance over Time. *European Journal of Psychology of Education, 38*, 1-23. <https://doi.org/10.1007/s10212-021-00594-6>
- Ahn, H. S., Bong, M., & Kim, S. (2017). Social Models in the Cognitive Appraisal of Self-Efficacy Information. *Contemporary Educational Psychology, 48*, 149-166. <https://doi.org/10.1016/j.cedpsych.2016.08.002>
- Amoako, I., Amoako-Gyampah, A., & Osei-Tutu, J. (2021). Examining the Effects of Motivation on Academic Performance of Senior High School Students in Ghana. *Journal of Education and Practice, 12*, 1-11.
- Amoako-Atta, S., & Asamoah, M. K. (2021). The Impact of School Infrastructure on Students' Academic Performance in Senior High Schools in Ghana. *African Educational Research Journal, 9*, 334-343.
- Baidoo-Anu, D., Amoako-Gyampah, A. K., & Osei-Tutu, J. (2019). Availability of Teaching and Learning Materials and Its Effects on the Academic Performance of Students in Selected Senior High Schools in Ghana. *International Journal of Research and Scientific Innovation, 6*, 132-139.
- Bandura, A. (1997). *Self-Efficacy: The Exercise of Control*. W.H. Freeman.
- Blumenfeld, P. C., Soloway, E., Marx, R. W., Krajcik, J. S., Guzdial, M., & Palincsar, A. (2021). Motivating Project-Based Learning: Sustaining the Doing, Supporting the Learning. *Educational Psychologist, 26*, 369-398. <https://doi.org/10.1080/00461520.1991.9653139>
- Bourdieu, P. (1986). The Forms of Capital. In J. Richardson (Ed.), *Handbook of Theory and Research for the Sociology of Education* (pp. 241-258). Greenwood. <https://www.marxists.org/reference/subject/philosophy/works/fr/bourdieu-forms-capital.htm>
- Cheon, S. H., Reeve, J., & Vansteenkiste, M. (2019). When Teachers Learn How to Provide Classroom Structure in an Autonomy-Supportive Way: Benefits to Teachers and Their Students. *Teaching and Teacher Education, 90*, Article 103004. <https://doi.org/10.1016/j.tate.2019.103004>
- Deci, E. L., & Ryan, R. M. (1987). The Support of Autonomy and the Control of Behavior. *Journal of Personality and Social Psychology, 53*, 1024-1037. <https://doi.org/10.1037/0022-3514.53.6.1024>
- Dunlosky, J., Rawson, K. A., Marsh, E. J., Nathan, M. J., & Willingham, D. T. (2013). Improving Students' Learning with Effective Learning Techniques. *Psychological Science in the Public Interest, 14*, 4-58. <https://doi.org/10.1177/1529100612453266>
- Eccles, J. S., & Wigfield, A. (2020). From Expectancy-Value Theory to Situated Expectancy-Value Theory: A Developmental, Social Cognitive, and Sociocultural Perspective on Motivation. *Contemporary Educational Psychology, 61*, Article 101859.

- <https://doi.org/10.1016/j.cedpsych.2020.101859>
- Goldrick-Rab, S. (2016). *Paying the Price*. University of Chicago Press. <https://doi.org/10.7208/chicago/9780226404486.001.0001>
- Goodenow, C. (2023). Classroom Belonging among Early Adolescent Students. *The Journal of Early Adolescence*, 13, 21-43. <https://doi.org/10.1177/0272431693013001002>
- Guo, J., Nagengast, B., Marsh, H. W., Kelava, A., Gaspard, H., Brandt, H., & Trautwein, U. (2018). Probing the Unique Contributions of Self-Concept, Task Values, and Interactions Using Multiple Value Facets and Academic Outcomes. *Contemporary Educational Psychology*, 58, 42-54.
- Hagenauer, G., & Volet, S. E. (2014). Teacher-Student Relationship at University: An Important Yet Under-Researched Field. *Oxford Review of Education*, 40, 370-388. <https://doi.org/10.1080/03054985.2014.921613>
- Hattie, J. A. T., & Donoghue, G. M. (2018). A Model of Learning. In *Contemporary Theories of Learning* (pp. 97-113). Routledge. <https://doi.org/10.4324/9781315147277-7>
- Hattie, J., & Timperley, H. (2007). The Power of Feedback. *Review of Educational Research*, 77, 81-112. <https://doi.org/10.3102/003465430298487>
- Hawthorne, H. (2021). *Understanding the Importance of Motivation in Education*. <https://www.highspeedtraining.co.uk/hub/motivation-in-education/>
- Huerta, M., Goodson, P., Beigi, M., & Chlup, D. (2017). Graduate Students as Academic Writers: Writing Anxiety, Self-Efficacy and Emotional Intelligence. *Higher Education Research & Development*, 36, 716-729. <https://doi.org/10.1080/07294360.2016.1238881>
- Jang, H., Kim, E. J., & Reeve, J. (2019). Satisfying Students' Psychological Needs in Project-Based Learning Environments: Implications for Motivation, Engagement, and Psychological Well-Being. *Learning and Individual Differences*, 71, 69-78.
- Junco, R., & Cotten, S. R. (2012). No A 4 U: The Relationship between Multitasking and Academic Performance. *Computers & Education*, 59, 505-514. <https://doi.org/10.1016/j.compedu.2011.12.023>
- Khan, P., & Iqbal, M. (2012). Overcrowded Classroom: A Serious Problem for Teachers. *University of Science and Information Technology*, 49, 10162-10165.
- Klem, A. M., & Connell, J. P. (2004). Relationships Matter: Linking Teacher Support to Student Engagement and Achievement. *Journal of School Health*, 74, 262-273. <https://doi.org/10.1111/j.1746-1561.2004.tb08283.x>
- Lau, C., Kitsantas, A., Miller, A. D., & Drogin Rodgers, E. B. (2018). Perceived Responsibility for Learning, Self-Efficacy, and Sources of Self-Efficacy in Mathematics: A Study of International Baccalaureate Primary Years Programme Students. *Social Psychology of Education*, 21, 603-620. <https://doi.org/10.1007/s11218-018-9431-4>
- 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, 517-528. <https://doi.org/10.2224/sbp.7054>
- Locke, E. A., & Latham, G. P. (2022). Building a Practically Useful Theory of Goal Setting and Task Motivation: A 35-Year Odyssey. *American Psychologist*, 57, 705-717. <https://doi.org/10.1037/0003-066x.57.9.705>
- Luo, L., Liu, J., & Peng, P. (2020). The Relation between Family Socioeconomic Status and Academic Achievement in China: A Meta-Analysis. *Educational Psychology Review*, 32, 49-76. <https://doi.org/10.1007/s10648-019-09494-0>
- Maslow, A. H. (1943). A Theory of Human Motivation. *Psychological Review*, 50, 370-396. <https://doi.org/10.1037/h0054346>

- Olivier, E., Archambault, I., De Clercq, M., & Galand, B. (2019). Student Self-Efficacy, Classroom Engagement, and Academic Achievement: Comparing Three Theoretical Frameworks. *Journal of Youth and Adolescence*, *48*, 326-340.  
<https://doi.org/10.1007/s10964-018-0952-0>
- Osei-Owusu, B., & Awunyo-Vitor, D. (2022). Parental Involvement and Academic Performance of Senior High School Students in Ghana: The Role of Self-Efficacy and Motivation. *Journal of Educational and Social Research*, *12*, 93-104.
- Owusu Amponsah, M., Yaw Milledzi, E., Twum Ampofo, E., & Gyambrab, M. (2018). Relationship between Parental Involvement and Academic Performance of Senior High School Students: The Case of Ashanti Mampong Municipality of Ghana. *American Journal of Educational Research*, *6*, 1-8. <https://doi.org/10.12691/education-6-1-1>
- Putwain, D. W., Becker, S., Symes, W., & Pekrun, R. (2017). Reciprocal Relations between Students' Academic Enjoyment, Boredom, and Achievement over Time. *Learning and Instruction*, *54*, 73-81. <https://doi.org/10.1016/j.learninstruc.2017.08.004>
- Raižienė, S., Gabrielavičiūtė, I., & Garckija, R. (2017). Links between Essential Psychological Need Satisfaction and School Adjustment: A Person-Oriented Approach. *Journal of Psychological and Educational Research*, *25*, 82-92.
- Reeve, J., & Cheon, S. H. (2021). Autonomy-Supportive Teaching: Its Malleability, Benefits, and Potential to Improve Educational Practice. *Educational Psychologist*, *56*, 54-77.  
<https://doi.org/10.1080/00461520.2020.1862657>
- Roorda, D. L., Jak, S., Zee, M., Oort, F. J., & Koomen, H. M. Y. (2017). Affective Teacher-Student Relationships and Students' Engagement and Achievement: A Meta-Analytic Update and Test of the Mediating Role of Engagement. *School Psychology Review*, *46*, 239-261. <https://doi.org/10.17105/spr-2017-0035.v46-3>
- Rosenzweig, E. Q., Wigfield, A., & Eccles, J. S. (2019). Expectancy-Value Theory and Its Relevance for Student Motivation and Learning. In *The Cambridge Handbook of Motivation and Learning* (pp. 617-644). Cambridge University Press.  
<https://doi.org/10.1017/9781316823279.026>
- Ryan, R. M., & Deci, E. L. (2020). Intrinsic and Extrinsic Motivation from a Self-Determination Theory Perspective: Definitions, Theory, Practices, and Future Directions. *Contemporary Educational Psychology*, *61*, Article 101860.  
<https://doi.org/10.1016/j.cedpsych.2020.101860>
- Sampson, R. J., Morenoff, J. D., & Gannon-Rowley, T. (2022). Assessing "Neighborhood Effects": Social Processes and New Directions in Research. *Annual Review of Sociology*, *28*, 443-478. <https://doi.org/10.1146/annurev.soc.28.110601.141114>
- Schunk, D. H., & DiBenedetto, M. K. (2020). Self-Efficacy and Human Motivation. In *Advances in Motivation Science* (pp. 153-179). Elsevier.  
<https://doi.org/10.1016/bs.adms.2020.10.001>
- Sethi, J., & Scales, P. C. (2020). Developmental Relationships and School Success: How Teachers, Parents, and Friends Affect Educational Outcomes and What Actions Students Say Matter Most. *Contemporary Educational Psychology*, *63*, Article 101904.  
<https://doi.org/10.1016/j.cedpsych.2020.101904>
- Sirin, S. R. (2015). Socioeconomic Status and Academic Achievement: A Meta-Analytic Review of Research. *Review of Educational Research*, *75*, 417-453.  
<https://doi.org/10.3102/00346543075003417>
- Steel, P. (2017). The Nature of Procrastination: A Meta-Analytic and Theoretical Review of Quintessential Self-Regulatory Failure. *Psychological Bulletin*, *133*, 65-94.  
<https://doi.org/10.1037/0033-2909.133.1.65>

- Talsma, K., Schüz, B., Schwarzer, R., & Norris, K. (2018). I Believe, Therefore I Achieve (and Vice Versa): A Meta-Analytic Cross-Lagged Panel Analysis of Self-Efficacy and Academic Performance. *Learning and Individual Differences, 61*, 136-150. <https://doi.org/10.1016/j.lindif.2017.11.015>
- UNESCO (2021). *Global Education Monitoring Report 2021: Non-State Actors in Education: Who Chooses? Who Loses?* UNESCO Publishing.
- Usher, E. L., & Pajares, F. (2008). Sources of Self-Efficacy in School: Critical Review of the Literature and Future Directions. *Review of Educational Research, 78*, 751-796. <https://doi.org/10.3102/0034654308321456>
- Vansteenkiste, M., Ryan, R. M., & Soenens, B. (2020). Basic Psychological Need Theory: Advancements, Critical Themes, and Future Directions. *Motivation and Emotion, 44*, 1-31. <https://doi.org/10.1007/s11031-019-09818-1>
- Wassenaar, T. M., Williamson, W., Johansen-Berg, H., Dawes, H., Roberts, N., Foster, C. et al. (2020). A Critical Evaluation of Systematic Reviews Assessing the Effect of Chronic Physical Activity on Academic Achievement, Cognition and the Brain in Children and Adolescents: A Systematic Review. *International Journal of Behavioral Nutrition and Physical Activity, 17*, Article No. 79. <https://doi.org/10.1186/s12966-020-00959-y>
- Wisniewski, B., Zierer, K., & Hattie, J. (2020). The Power of Feedback Revisited: A Meta-Analysis of Educational Feedback Research. *Frontiers in Psychology, 10*, Article 3087. <https://doi.org/10.3389/fpsyg.2019.03087>
- Yeager, D. S., Hanselman, P., Walton, G. M., Murray, J. S., Crosnoe, R., Muller, C. et al. (2019). A National Experiment Reveals Where a Growth Mindset Improves Achievement. *Nature, 573*, 364-369. <https://doi.org/10.1038/s41586-019-1466-y>
- Zajda, J. (2023). The Impact of Motivation on Students' Engagement and Performance. In *Globalisation, Comparative Education and Policy Research* (pp. 127-138). Springer. [https://doi.org/10.1007/978-3-031-42895-1\\_9](https://doi.org/10.1007/978-3-031-42895-1_9)
- Zhen, R., Liu, R., Ding, Y., Wang, J., Liu, Y., & Xu, L. (2017). The Mediating Roles of Academic Self-Efficacy and Academic Emotions in the Relation between Basic Psychological Needs Satisfaction and Learning Engagement among Chinese Adolescent Students. *Learning and Individual Differences, 54*, 210-216. <https://doi.org/10.1016/j.lindif.2017.01.017>