

# The Intervening Role of Human Resource Development Interventions on the Relationship Between School Leadership and Academic Performance in Public Senior High Schools in Ghana

Kwame Owusu-Ansah Owusu Afram

Ghana Communication Technology University

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## ABSTRACT

Since independence, enhancing secondary education in Ghana has been a major focus of reforms. However, despite these efforts, academic performance in second-cycle schools has not fully met expectations. According to the Ghana Education Service and the Ministry of Education, pass rates in core subjects have improved from 2006 to 2021. However, performance in these subjects still falls below 40%. This persistent underperformance has been attributed to school leadership and their capacity to effectively implement a vision for enhancing teachers' skills and knowledge. This study examines the moderating effect of human resource development interventions on the relationship between school leadership and academic performance in public senior high schools in Ghana. Grounded in distributed leadership and social learning theories, the study uses a positivist approach to analyze these relationships systematically. A cross-sectional design was employed, utilising self-administered questionnaires to collect data from a target population of 928 public senior high schools listed by the Ghana Education Service as of December 2023. A cluster-stratified random sampling technique selected 2176 respondents from 16 strata. Data was processed and analyzed using SPSS version 27. The analysis included both descriptive and inferential statistics. The study found a positive significant correlation ( $R= 0.669$ ) between school leadership and academic performance. The study further found that human resource development interventions significantly moderated ( $R= 0.289$ ) the relationship and strengthened the effect of school leadership on academic performance. The study recommends that the Ministry and relevant agencies appoint competent school leaders to senior high schools.

Furthermore, the study emphasises the need for professional development initiatives for teachers. The study advocates for policies that prioritise human resource development interventions and suggests future research to focus on similar studies on both public and private senior high schools, as well as vocational and STEM institutions.

**Keywords:** School Leadership, Human Resource Development Interventions, Public Senior High School, Academic Performance, Ghana

## INTRODUCTION

The United Nations Sustainable Development Goals highlight the necessity of providing quality education and ensuring universal access, essential for a nation's social and economic development. However, a 2023 UNESCO report revealed that over 763 million adults, primarily in Africa, continue to struggle with basic literacy skills (UNESCO, 2023). Academic performance, defined by Alhassan et al. (2020) as the output of

students typically represented by their grades, is a critical indicator of an institution's success or failure (Narad & Abdullah, 2016). Research shows that strong academic performance is vital for producing quality graduates who can effectively contribute to socio-economic progress (Maponya, 2020; Ali et al., 2013; Singh et al., 2016). The secondary education system plays a vital role in equipping students with the technical skills and knowledge necessary to thrive as professionals and university graduates, thereby contributing to a skilled workforce.

School leadership is widely acknowledged as a key factor influencing academic outcomes. Effective school leaders play a crucial role in establishing a vision for learning, developing strong instructional programs, implementing comprehensive assessments, fostering learning communities, and managing resources to support student success (Antoci & Ceobanu, 2022; Atasoy, 2023). According to Atasoy (2023), the primary responsibilities of school leaders include empowering headteachers and teachers, creating conducive learning environments, integrating various leadership styles, and managing technology. This also involves coordinating the activities of teachers, non-teaching staff, and the overall school environment (Armstrong & Taylor, 2020). For example, research in England by Day et al. (2016) suggests that effective school leadership hinges more on accurately diagnosing school needs and applying context-sensitive strategies than on leadership style alone. Similarly, Gakenia et al. (2017) found that leadership capacity and access to learning resources significantly influence the effectiveness of strategic leadership on academic performance in Kenya.

In Ghana, efforts to enhance secondary education have been ongoing since before independence in 1957 (Akyeampong, 2010). Despite these efforts, reforms to improve academic performance in second-cycle schools have not fully achieved their goals. The efficiency of the educational system remains a significant topic in academic, political, and governance discussions. Amakyi (2022) emphasizes that effective school leadership is vital for managing schools and ensuring accountability for educational outcomes. According to the Ghana Education Service and the Ministry of Education, pass rates in core subjects have improved from 2006 to 2021. However, performance in these subjects still falls below 40%. This persistent underperformance has been attributed to school leadership and their capacity to effectively implement a vision for enhancing teachers' skills and knowledge.

While school leadership is widely recognized as a crucial factor influencing academic performance (Antoci & Ceobanu, 2022; Day et al., 2016), the specific mechanisms by which Human Resource Development Interventions (HRDI) mediate this relationship are still underexplored. Effective school leadership is essential for fostering a vision for learning (Belay et al., 2021), implementing robust instructional practices (Kyriakides et al., 2015), and managing resources to enhance student outcomes (Bloom et al., 2015). However, the impact of school leadership on academic performance can be significantly influenced by the effectiveness of HRDI. Armstrong and Taylor (2023) describe Human Resource Development (HRD) as a framework designed to help individuals enhance their skills, knowledge, and abilities for personal benefit, ultimately aiming to improve both individual and organizational performance, productivity, and business outcomes. HRDI includes various strategies and practices aimed at developing and supporting the skills and competencies (Swanson, 2022) of educational personnel, which can affect the execution of leadership practices and their subsequent impact on student performance. Despite the importance of these factors, there is a notable lack of comprehensive research examining how HRDI intervenes in the relationship between school leadership and academic performance in Ghanaian public senior high schools (SHSs).

This gap is significant, given that HRDI could play a crucial role in optimizing the influence of leadership on educational outcomes. With various governmental policies and initiatives aimed at improving secondary education—such as the Free SHS policy and programs targeting inclusive education—understanding the interplay between school leadership, HRDI, and academic performance is essential for developing effective strategies to address these challenges. Overall, while students must take responsibility for their learning, they also require support from instructors and school leaders to fully realize their potential.

## Public Senior High Schools in Ghana

In Ghana, secondary education comprises three years of schooling and includes public and private senior high schools, vocational and technical institutions, as well as programs focused on science, technology, engineering, and mathematics (STEM). Public senior high schools are categorized schools into three groups: Category A (high-performing), Category B (average), and Category C (low-performing). As of December 2023, there were 928 listed senior high schools across the sixteen regions by the Ghana Education Service (GES). Public SHS students in Ghana study mandatory core subjects—including Core Mathematics, Core English, Core Integrated Science, and Core Social Studies—and selected electives from Arts, Vocational, Business, Science, Agriculture, or technical fields. They complete 30 credit hours of instruction each week and take the West African Senior School Certificate Examination (WASSCE) to graduate. WASSCE grading includes credit passes (A1-C6), pass-no credit (D7, E8), and failing grades (F9), with a minimum of C6 required for entry into tertiary education.

## LITERATURE REVIEW

### Distributed Leadership Theory

According to Harris et al. (2022), the concept of distributed leadership, also known as shared leadership, has historical roots dating back to 1250 BC but has gained prominence only recently. Scholars have not yet reached a consensus on its definition. Spillane et al. (2001) are credited with developing the modern concept of distributed leadership, which includes both formal and informal leadership roles. This approach has since attracted significant interest from researchers, policymakers, practitioners, and educational reformers worldwide. Khmaladze and Mesiridze (2024) describe distributed leadership in education as involving the sharing of leadership responsibilities beyond the principal, engaging all staff members to create greater opportunities for change and improvement. Tan (2018) found that distributed leadership positively impacts student academic achievement across various educational levels. This study employs the distributed leadership theory as it offers a framework for enhancing teaching and learning.

### Social Learning Theory

According to Wenger (2018), Albert Bandura (1977) is recognized as the key founder of social learning theory, which emphasizes that a person's self-awareness and judgment about their ability to learn significantly impact their learning process (Wenger, 2018; Yermack, 2017; Grusec, 2016). Khan et al. (2024) argue that Bandura's Social Learning Theory suggests individuals acquire new behaviours through observational learning by watching and imitating others. The theory posits that behaviours reinforced by rewards are more likely to be repeated (Wenger, 2018). Rumjaun and Narod (2020) contend that the theory highlights the importance of observing, modelling, and imitating others' behaviours, attitudes, and emotional responses as key mechanisms for learning new behaviours. Deaton (2015) notes that observational learning is central to the theory, as individuals learn by observing others' behaviours and their consequences, and then model and integrate these behaviours into their own repertoire. Bandura's theory underscores the role of social observation, cognitive processing, and agency in shaping behaviour, attitudes, and emotional responses. Social Learning Theory builds on behaviourist principles like classical and operant conditioning (Koutroubas & Galanakis, 2022). Eyyam et al. (2016) found that social learning theory indirectly influences students' academic success by stressing the importance of observing and imitating effective study habits and learning strategies. This theory is relevant to the present study as it demonstrates how both positive and negative behaviours can be learned through observation.

### Empirical Review

Extensive research over nearly four decades has underscored the critical role of school leadership in driving school improvement. This body of work has examined various leadership roles, primarily focusing on school

principals while also including assistant principals, teachers, and other staff members. Studies by Asafu-Adjaye (2012), Atteh et al. (2020), and Wilkinson and Long (2019) have explored how effective leadership influences secondary education. Özdemir et al. (2022) identified instructional leadership as the most commonly utilized model, noting its positive impact on academic performance. Wilkinson and Long (2019) argue that effective school leadership is essential for ensuring equitable access to quality education and preparing students for higher education and the job market. Huguet (2017) found that trustworthy and passionate school leaders significantly enhance school performance. Additionally, Ranson (2011) highlighted the role of school boards in providing strategic direction to improve academic outcomes. Atteh et al. (2020) also noted a positive correlation between school leadership competencies and teaching outcomes, although their study was limited to a single subject area.

Tan (2018) showed that school leadership significantly influences student achievements, while Asafu-Adjaye (2012) discussed the dual roles of school management committees and principals in enhancing performance. Akyeampong et al. (2015) identified challenges such as inadequate funding and staff shortages affecting school leadership's effectiveness. Cruickshank (2017) noted that school improvement takes time and is positively related to effective leadership. Huaisheng et al. (2019) found a positive relationship between school leadership and academic performance, emphasizing the need for intensified management functions. Other studies (Hallinger & Heck, 2010; Harris, 2011; Inkoom, 2012; Salifu, 2014) have highlighted concerns about ineffective learning habits linked to leadership and teaching styles. Kitur et al. (2020) and Ochieng (2023) found significant relationships between leadership styles and academic performance in Kenya, while Brown and Owusu (2014) identified leadership issues in Ghanaian schools. Luschei et al. (2021) found that increased teacher decision-making was linked to better academic performance, though this study did not explore other variables. Owan et al. (2018) and Kapur (2018) confirmed positive relationships between school management and academic performance, while Trimmer et al. (2021) explored the impact of leadership on Aboriginal student outcomes. Adu-Gyamfi et al. (2016) reviewed Ghana's educational policies and their impact on secondary education leadership. Asumadu (2019) emphasized the need for equipping school leaders with skills and resources, while Heystek and Emekako (2020) highlighted leadership strategies for improving academic performance. Rodrigues et al. (2024) found weak leadership practices impacting student achievements, and Robinson and Gray (2019) identified effective leadership practices impacting student outcomes in New Zealand.

According to Aybas et al. (2017), a moderating variable influences the relationship between predictor variables and an outcome variable by either amplifying, diminishing, or altering the impact of the predictor on the outcome. Essentially, a moderating variable can strengthen, weaken, or change the direction of this relationship, thereby affecting how the predictor variable impacts the outcome. Dawson (2014) defines moderation as the process through which a third variable (the moderator) affects the relationship between two other variables (predictor and outcome). Studies by Aybas et al. (2017), Mutuku et al. (2021), and Agbodeka et al. (2019) suggest that moderators can significantly alter the strength and direction of relationships between predictor and outcome variables. Mutuku et al. (2021) emphasize the importance of selecting and justifying moderators based on both theoretical and empirical grounds.

Research into the relationship between school leadership and academic performance has been explored in several studies (Awiah, 2018; Asumadu, 2019; Fusheini et al., 2017; Manu et al., 2020; Brew et al., 2021; Narad & Abdullah, 2016; Nweze & Okolie, 2014). However, these studies have produced inconclusive results, suggesting the potential influence of additional variables on this relationship. For example, Abonyi (2017) identified human resource development interventions (HRDIs) as potential moderating variables in how school leadership impacts academic performance in Senior High Schools (SHS). Abonyi argued that HRDIs could enhance school leadership's efforts by providing individuals with the knowledge, skills, and attitudes needed to improve student performance. This perspective aligns with the view that effective human resource development is crucial for improving individual performance, although the value of this development is limited unless effectively applied in practice (Stone, Cox, & Gavin, 2020). In contrast to earlier studies that focused primarily on improving the behaviour and attitudes of school leadership (Manu et

al., 2020; Narad & Abdullah, 2016; Nweze & Okolie, 2014), Abonyi's findings highlight the potential moderating role of HRDIs.

Grissom et al. (2021) found that effective school leadership positively correlates with student achievement and growth. Key leadership behaviours, such as setting goals, facilitating collaboration, and providing support, were identified as critical predictors of student success. The study also emphasized the importance of principal training and development programs to enhance leadership skills and improve student outcomes. Mutuku et al. (2021) examined how school infrastructure moderates the relationship between human resource management practices and academic performance in Kenyan secondary schools. They found that human resource management practices, including training and development, moderated the impact of decision-making on student performance. The study recommended policies to improve decision-making and human resource management to achieve better academic outcomes. Similarly, Bryson et al. (2023) found that effective recruitment and training strategies significantly influence school management and academic performance.

Faizuddin (2018) studied the impact of human resource management practices on head teachers in Malaysia, finding a significant effect on institutional and educational goals. The study highlighted that a supportive work environment, training, dedication, and appropriate teacher placement improved teaching methods and student performance. It recommended that head teachers implement better human resource strategies to enhance school performance. Ankoma-Sey and Maina (2016) found a positive but weak relationship between effective supervision and academic performance in Ghanaian senior high schools, attributing this to neglect of supervision functions. Bush and Glover (2021) found that human resource development positively impacted school leadership and student achievement. Similarly, Sultana (2018) and Ukozor (2024) highlighted that HRD practices, including professional development and capacity building, significantly affect student outcomes and school effectiveness.

Pourrajab et al. (2016) explored the influence of principal leadership styles on academic achievement and identified a moderate positive correlation, with human resource development as a significant factor. Hervie and Winful (2018) found that training and development moderated the relationship between teacher performance and student achievement, although their findings were specific to a single senior high school in Ghana. Coe et al. (2014) emphasized that a systematic approach to teacher development is crucial for school success, aligning with Armstrong (2014) on the importance of HRD interventions for individual and organizational growth. Awiah (2018) argued that training systems in schools should regularly review and revise their mission statements to improve performance. Hallinger and Heck (2010) suggested that collaborative efforts involving government agencies and professional development are vital for school improvement. Grimus and Ebner (2015) emphasized that a focus on teaching, leadership, and collaboration is key to improving senior high schools. HRDI interventions, such as technical training, supervision of instruction, and support for professional training, play critical roles in improving educational outcomes. Technical training enhances teaching effectiveness (Agbodeka et al., 2019), while effective supervision ensures continuous professional development (Abonyi, 2017). Support for professional training and coaching, as outlined by Armstrong and Taylor (2020), helps individuals develop their skills and achieve optimal performance. These interventions are essential for understanding how HRDIs can moderate the relationship between school leadership and academic performance.

The study aimed to evaluate the following hypothesis:

H01: There is no significant moderating effect of Human Resource Development Interventions on the relationship between school leadership and academic performance in public SHS in Ghana.

### **Conceptual Framework**

Drawing from the existing literature, the researcher has created the conceptual framework for the study, as illustrated in Figure 1.

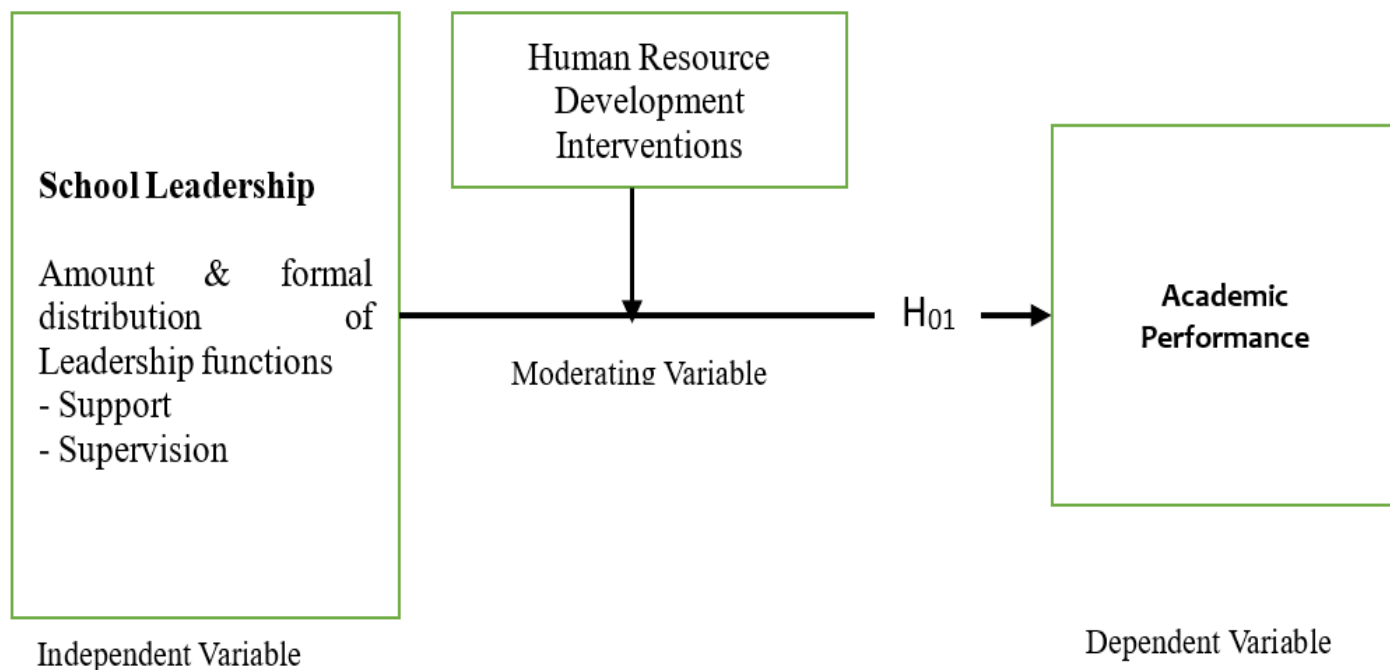


Figure 1: Conceptual Framework

## METHODOLOGY

This research employed a cross-sectional survey design to assess public Senior High Schools (SHS) in Ghana, with a study population of 928 schools across 16 regions (Ghana Education Service, 2023). A systematic sampling technique was utilized to ensure consistency, using Kothari's (2013) sampling formula to determine the sample size. The formula used was:

$$n = \frac{Z^2 N p q}{d^2 (N - 1) + Z^2 p q}$$

where:

N = total number of schools (928),

p = population reliability (0.5),

Z = Z-score at a 0.05 level of significance (1.96),

d = sample error (5%).

Applying these values:

$$n = \frac{(1.96)^2 \times 0.5 \times 0.5 \times 928}{(0.05)^2 (928 - 1) + [(1.96)^2 \times 0.5 \times 0.5]} = 272 \text{ schools}$$

Thus, a sample size of 272 schools was selected for the quantitative analysis. Battaglia et al. (2016) suggest that a sample size exceeding 100 is adequate for a representative study.

The study employed a cluster-stratified random sampling technique to select respondents from the 16 regions. The distribution of respondents is detailed in Table 1. Primary data was collected through closed-ended questionnaires.

Table 1: Distribution of Respondents

Designation	Number per School	Number of Schools	Respondents
School Management Committee Chairperson	1	272	272
Headmaster/Headmistress	1	272	272
Assistant Headmasters/Mistresses (Academics/Admin)	2	272	544
Heads of Departments (Core Subjects)	4	272	1088
<b>Total Respondents</b>			<b>2,176</b>

Source: Ghana Education Service, 2023

## FINDINGS AND DISCUSSIONS

### Response Rate

A total of one thousand nine hundred and sixty (1960) questionnaires were issued after the pilot study had been conducted. The results show that thousand nine hundred and forty-nine (1949) were returned, representing 99.44%, as shown in Table 2.

Table 2: Response Rate

Questionnaire	N	%
Returned	1949	99.44%
Not returned	11	0.56%
<b>Total</b>	<b>1960</b>	<b>100%</b>

### Designation of Respondents

The results of Table 2 show that School Management Council (SMC) Chairpersons were 141 representing 7.2%, Headmasters were 184 representing 9.4%, Assistant Headmasters were 767 representing 39.4%, and Heads of Departments were 857 representing 44%. The results show that the various categories of school leadership were represented.

Table 2: Position of Respondents

	N	%
SMC Chairperson	141	7.20%
Headmaster	184	9.40%
Assistant Headmaster	767	39.40%
Head of Department	857	44.00%

## Correlation Test

A Pearson correlation analysis was conducted, using SPSS software, to assess the association between the independent and dependent variables. Correlations were tested at a significance level of 0.01, denoted by two asterisks (\*\*). The results of the correlation analysis are presented in Table 3.

Table 3: Correlation Test

		School Leadership	HRDI	Academic Performance
School Leadership	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	1949		
HRDI	Pearson Correlation	.180**	1	
	Sig. (2-tailed)	0		
	N	1949	1949	
Academic Performance	Pearson Correlation	.637**	.178**	1
	Sig. (2-tailed)	0	0	
	N	1949	1949	1949

The correlation results shown in Table 3 indicate a significant positive association between school leadership and academic performance ( $r=0.637$ ,  $p=0.000$ ), suggesting a strong relationship. This implied that effective school leadership was closely linked to academic performance, indicating that the association was strong. Furthermore, the analysis reveals a positive but weaker correlation between HRDI and academic performance ( $r=0.178$ ,  $p=0.000$ ). Although this relationship is statistically significant, its strength is relatively low. Overall, the findings revealed that both school leadership and HRDI were positively associated with academic performance, highlighting the need for further investigation into these variables.

## Hypothesis Testing

The testing null hypothesis was:

H01: There is no significant moderating effect of Human Resource Development Interventions on the relationship between school leadership and academic performance in public SHS in Ghana.

To conduct the test in SPSS using the Baron and Kenny method, three regression models were used. The models were presented as:

$$\text{Model 1: AP} = 1.056 + 0.669\text{SL}$$

$$\text{Model 2: AP} = \beta_2 + \beta_3 \text{SL} + \beta_4 \text{H} + \epsilon$$

$$\text{Model 3: AP} = \beta_5 + \beta_6 \text{SL} + \beta_7 \text{H} + \beta_8 \text{SL}*\text{H} + \epsilon$$

Where AP = Academic Performance of public senior high schools, SL = School Leadership, and H = HRDI (the moderator). The first model shows the prediction of academic performance against school leadership. In the second model, school leadership and HRDI were predicted against academic performance. Finally, in the third model, academic performance was regressed against school leadership, HRDI and the interaction term of school leadership and HRDI (SL\*H). The tests were conducted using the mean scores of the study variables. The results of the tests are presented in Table 4.

Table 4: Regression Model of School Leadership and HRDI

Variable	Model 1 $AP = \beta_0 + \beta_1 SL + \epsilon$	Model 2 $AP = \beta_2 + \beta_3 SL + \beta_4 H + \epsilon$	Model 3 $AP = \beta_5 + \beta_6 SL + \beta_7 H + \beta_8 SL*H + \epsilon$
School Leadership	0.669 (0.000)	0.656 (0.000)	-0.518 (0.043)
Human Resource Development Interventions	-	0.154 (0.000)	-0.960 (0.000)
SL*H	-	-	0.289 (0.000)
Constant	1.056 (0.000)	0.474 (0.006)	4.990
R-Squared	0.406	0.410	0.417
F-Statistic	1330.771	676.680	462.883
Sig.	0.000	0.000	0.000

The results demonstrated significant levels in Models 1, 2, and 3 of the test. Table 4 presents the findings, which indicate that:

Model 1:  $AP = 1.056 + 0.669SL$

From the model one testing, the ANOVA F-Test results are F-statistics value = 1330.771,  $p=0.000$ . The test showed a significant level with an  $R^2 = 0.406$ .

Model 2:  $AP = 0.474+0.656SL+0.154H$

From the model two testing, the ANOVA F-Test results are F-statistics value = 676.680,  $p=0.000$ . The test showed a significant level with an  $R^2 = 0.410$ .

Model 3:  $AP = 4.990 - 0.518SL - 0.960H + 0.289SL*H$

From the model three, the ANOVA F-Test results are F-statistics = 462.883,  $p = 0.000$ . The test showed a significant level with an  $R^2 = 0.417$ .

Subsequently, the fitted models are:

**Model 1:  $AP = 1.056 + 0.669SL$**

**Model 2:  $AP = 0.474+0.656SL+0.154H$**

**Model 3:  $AP = 4.990 - 0.518SL - 0.960H + 0.289SL*H$**

To evaluate whether HRDI significantly moderates the relationship between school leadership and academic performance, the p-value of the interaction term (school leadership \* HRDI) was analyzed. With a p-value of 0.000 for this interaction, the study concludes that HRDI does indeed moderate the relationship. Additionally, as shown in Table 11, the  $R^2$  for the interaction term is 0.417, indicating an increase from 0.410 before moderation. The null hypothesis posited that HRDI does not significantly moderate the relationship between school leadership and academic performance in public senior high schools in Ghana. Consequently, the study rejects the null hypothesis, affirming that HRDI significantly moderates this relationship.

The study results indicated that HRDI significantly moderates the relationship between school leadership and academic performance in public secondary schools in Ghana. HRDI was assessed through elements such as technical training, instructional supervision, support for professional development, and coaching. Key HRDI

indicators, including “I constantly meet with school leaders and supervisors,” “I have received support for CPD programs,” and “I have established strong associations with factors influencing HRDI,” were found to strongly impact the effectiveness of these interventions.

The study tested the hypothesis that HRDI moderates the relationship between school leadership and academic performance. The findings showed a significant positive relationship between school leadership and academic performance. Specifically, with school leadership held constant, academic performance is predicted to reach 1.056. Furthermore, a unit increase in school leadership is associated with a 0.669 increase in academic performance ( $p=0.000$ ).

Three models were used to analyze the moderating effect of HRDI:

**Model 1:** This model assessed the direct impact of school leadership on academic performance and found the regression to be significant.

**Model 2:** This model included HRDI as an additional factor and showed a significant regression for academic performance in relation to both school leadership and HRDI.

**Model 3:** This model incorporated the interaction term between school leadership and HRDI (SL\*H). The results were significant (F-statistics = 462.883,  $p=0.000$ ,  $R^2=0.417$ ), demonstrating that HRDI effectively moderates the relationship between school leadership and academic performance.

The findings in the present study align with prior research. Abonyi (2017) supports the view that HRDI is a crucial moderating variable in enhancing school leadership’s impact on academic performance, emphasizing that effective HRDI should translate acquired knowledge into improved workplace performance. Similarly, Grissom et al. (2021) found that effective school leadership, which includes goal-setting and support, positively correlates with student achievement and a positive school climate. Agbodeka et al. (2019) and Upoalkpajor (2020) also observed that HRDI, including technical training and career guidance, enhances school leadership's capacity and its effect on academic performance. Manu et al. (2020) highlighted the importance of aligning external forces like community support and technology with school leadership to achieve academic goals, although this study focused specifically on HRDI.

Mylona and Mihail (2022) noted that supportive HRDI practices significantly influence the effectiveness of school leadership on academic outcomes. Mutuku et al. (2021) and Bryson et al. (2023) also found that effective HRDI, including training and recruitment strategies, positively impacts school management and academic performance. Swanson (2022) emphasized that HRDI initiatives, aimed at building knowledge and aligning with organizational goals, enhance leadership impact. Coe et al. (2014) concurred but also noted that teacher development influences the principal's effect on student learning, a point that aligns with the current study's findings. The results align with Smith and Smith (2015) and Amina (2015), who found positive correlations between school leadership practices and academic performance. The study supports the view that focusing on HRDI, including training and supervision, enhances the effectiveness of school leadership in improving student outcomes.

However, the study diverges from Awiah (2018), who suggested that accommodation issues rather than HRDI are primary moderators of the relationship between school leadership and academic performance, and Manu et al. (2020), who focused on external forces.

## CONCLUSION

The study explored the relationship between school leadership and academic performance in public senior high schools (SHS) in Ghana, concluding that effective school leadership significantly influences students' academic outcomes. It highlighted that strong instructional and supervisory roles are essential for enhancing academic performance. Key attributes of effective school leadership include the necessary knowledge, skills,

vision, and the ability to improve teaching and learning. Motivated school leaders and a competent teaching staff contribute to positive academic results by fostering a collaborative learning environment and effectively allocating resources.

Additionally, the study examined the moderating effect of HRDI on this relationship. HRDI was found to positively impact the effectiveness of human resources within schools, thereby enhancing academic performance. The results indicated that HRDI significantly moderates the connection between school leadership and academic performance, providing mutual benefits for both teachers and the school. These benefits include professional growth, career advancement, job satisfaction, improved school outcomes, and a positive school culture. The findings support previous research, showing that HRDI equips teachers to create engaging and relevant curricula tailored to students' needs. HRDI also enables teachers to offer targeted support for students with special needs, implement effective assessments, and foster a collaborative school culture. Furthermore, HRDI encourages cooperation between teachers and parents, enhancing overall support for students.

## RECOMMENDATIONS

The study highlights the critical role of school leadership and Human Resource Development Interventions (HRDI) in enhancing academic performance within Ghana's secondary education system. Policymakers, including the Ministry of Education, the Ghana Education Service (GES), the National Teaching Council (NTC), the National Schools Inspectorate Authority (NaSIA), and the National Council for Curriculum and Assessment (NaCCA), should prioritize effective school leadership. It is essential to appoint visionary and competent leaders to the governing boards who focus on empowering teachers and adopting student-centered approaches. Boards should be encouraged to establish a clear vision for academic excellence, grant teachers' autonomy, and create a culture that prioritizes student needs and well-being.

National policymakers should integrate HRDI into their frameworks to enhance teacher development and improve supervision. The Ministry of Education should allocate resources for HRDI, mandate continuous training, and establish HRD Officers and Units in schools to oversee ongoing development initiatives. The GES should emphasize HRDI in its policies and promote stakeholder engagement through conferences and workshops to inform effective policy-making. Regular input from stakeholders will be crucial for refining HRDI programs and ensuring their relevance.

The NTC's teacher licensure examinations should be complemented by ongoing professional development and supervision. Policies should align teacher training with performance ratings and skill requirements. NaSIA should require the inclusion of HRDI in school inspections, while NaCCA should update the curriculum to reflect the skills necessary for effective teaching, including training in new technologies.

### Recommendations for further research

Future studies could investigate the same variables in both public and private senior high schools, as well as vocational, technical, and STEM institutions in Ghana. Additionally, the research could be expanded to include Junior High Schools to examine similar dynamics. Further research could also incorporate other mediating and moderating variables to deepen the understanding of the relationship between school leadership and academic performance. Identifying additional factors that impact this relationship could offer a more comprehensive perspective.

## LIMITATIONS OF THE STUDY

The study faced several limitations. First, it focused exclusively on 928 public senior high schools across the 16 regions of Ghana, excluding private, vocational, technical, and STEM schools. Furthermore, while the research centered on Ghana, the West African Senior School Certificate Examination (WASSCE) is also

administered in other countries such as Nigeria, Liberia, Sierra Leone, and The Gambia, which were not considered in this study.

Second, the research employed a quantitative approach with a cluster-stratified random sampling method, potentially limiting the generalizability of the findings. The lack of mixed methods may have restricted the depth of insights obtained. Additionally, reliance on primary data collection introduced challenges, including biases from selective recall, perceptual issues, and inaccuracies associated with primary sources. Logistical difficulties arose, especially in accessing schools located in remote areas with poor road infrastructure, requiring the assistance of five research assistants to complete data collection within the designated timeframe.

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