

EXPLORING THE ROLE OF SCHOOL LEADERSHIP STYLES AND SCHOOL CULTURE IN THE PERFORMANCE OF SENIOR HIGH SCHOOLS IN GHANA USING PLS- SEM APPROACH

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ABSTRACT

Education is a global phenomenon and a key factor in the improvement of an individual, an organization and economic growth and development. Therefore Improving school effectiveness and performance has become fundamental development goal of every country. This present study examines the direct impact of predominant leadership styles on school culture and school performance as well as the indirect channels through which these leadership styles contribute to school performance. A total sample size of 500 respondents which comprised teachers, headmasters and assistant headmasters in the selected senior high schools in the Kumasi Metropolis in the Ashanti region in Ghana. The Partial Least square Structural Equation Modeling (PLS-SEM) approach was used for the data analysis with Smart PLS computer software version 3.0. The findings from the study showed that, Instructional, transactional, and the transformational leadership styles are the predominant leadership styles employed by the heads of the public Senior High Schools in the study area. The Results demonstrate that, instructional, transactional, and the transformational leadership styles have statistically significant and positive direct impact on school culture and school performance. Further, school culture was utilized as mediating variables which play a statistically positive significant partial mediating effect in the relationship between the leadership styles and school performance. Based on the findings, it is recommended that, educational leaders in the various educational institutions should employ more of transformational leadership styles and should also focus on improving school culture in order to improve school performance

KEYWORDS: Educational leadership styles, school culture, school performance, Ghana

1. INTRODUCTION

The increasing complexity of school settings and dynamic leadership practices and its subsequent impacts on school performance have received great attention by educational experts, policy makers and researchers globally (Day, Gu & Sammons, 2016; Mulford, 2008). According to studies such as Lezotte and McKee (2006), Kouzes & Posner (2012) and Boampong, Obeng-Denteh, Issaka and Anamuah-Mensah, (2016) and Choi and Gil, (2017) conclude that Leadership styles and practice have been play a critical role in school performance and particularly students achievement. Shatzer (2014) posit that, the extent to which improvement in school performance occurs depends so much on the leadership styles employed by the head.

Furthered by Robinson (2008), educational leadership practices such as the Transformational leadership, transactional leadership and instructional leadership are the most regularly cited theories in education related literature that have shown significant influence in determining school performance. A study by Shatzer (2014) opined that, Transformational leadership focuses on establishing school culture and vision to enhance the quality of school teaching and learning, develop people, and improve the organization (While transformational leadership can strongly influence teachers, numerous studies (Leithwood & Jantzi, 2006; Ross & Gray, 2006) have concluded that these positive impacts have a much weaker effect on student achievement. With this leadership practice, principals' efforts should be concentrated on the promotion of better outcomes for students, and the importance of improving the quality of classroom teaching and learning. Research on instructional leadership (Robinson, 2008, Shatze, 2014) has concluded that instructional leadership can influence student achievement, primarily through improvements to teacher's work conditions and school culture (Hou, Cui & Zhang 2019).

These studies have concluded that it can have a more noticeable effect on student achievement than transformational and transactional leaderships, primarily because it places more of an emphasis on the quality of teachers and their teaching.

Transactional leaders identify primarily tasks of the followers, establish the structure, emphasis on planned and scheduled work. Followers are rewarded or punished to achieve organizational goals (Hoy & Miskel, 2010). Ezeh (2008) observed that transactional leadership is more effective when organization desire to achieve their aims and objectives. Aydin, Sarier, and Uysal, (2013) show that transactional leadership affects job satisfaction at a broad level and in a positive way.

It has also been shown that leadership style and school culture have significant impact on school performance. Thus, leadership style, school culture and school performance can be assumed to be interrelated, though there is little known about the precise relationship among them especially in the context of Ghanaian education settings.

Wangihti (2014) also believes that with regards to the leadership styles used by school principals the autocratic leadership style of school head was found to have a negatively influence on school teacher's levels of job performance. Again, the author articulate that Headmasters' laissez faire leadership style moderately influences school teacher's levels of job performance whilst transformational leadership style positively influences school teacher's levels of job performance as compared to transactional leadership style. It suggest that, headmasters need to mix more than one method of leadership style so that a positive atmosphere can be achieved.

Heaven and Bourne (2016) investigated on instructional leadership and its effect on students' academic performance in secondary educational institutions in Kingston and St. Andrew, Jamaica. The findings indicated that a positively weak statistical correlation existed between the performance

of students and instructional leadership. Boampong, Obeng-Denteh, Issaka and Anamuah-Mensah (2016) studied the effect of leadership styles of head teachers on the academic performance of students in Ghana. The findings from these authors indicated that the leadership styles of head teachers have some influence on academic performance of students.

Every school has a culture (; Peterson & Deal, 2002; Wiles & Bondi, 2004) and “culture influences everything that happens in a school”. The concept of school culture dates back to Waller in the early 1930s in who argued that every school has a culture of its own (Peterson & Deal, 2002; Schoen & Teddlie, 2008). With this long history, it would seem that school culture would be a well-defined and consistently used construct in educational research. However, this has not been the case.

Robbins and Judge (2011) defined organizational culture as a system of shared meaning held by members that distinguish the organization from other organizations. In schools, it is developed and shaped through the constant interactions between the staff members, the students, and the community.

Students who do not experience a supportive school culture may never achieve proficiency or academic excellence (Rhodes et al., 2009). Students who do not experience a supportive school culture may never achieve proficiency or academic excellence (Rhodes et al., 2009). There is a strong association between effective principals and school cultures that support learning. Engels, Hotton, Devos, Bouckenooghe, and Aelterman (2008) argued that principals facing multiple competing demands and a limited amount of time that they can spend within classrooms should focus on transforming the culture of the school to ensure that teaching and learning function effectively. School culture reflects the shared ideas, that is, assumptions, values and beliefs that give an organization its identity and standard for expected behaviours. The quality of the education provided in schools is normally evaluated based on measures of school performance and school effectiveness. Improving school effectiveness, a fundamental aim for school teachers, leaders, and societies, could be affected by a number of factors, for instance school culture (Bhengu, & Mthembu, 2014).

Furthermore, leadership approaches shape and maintain distinct school cultures (Bhengu & Mthembu, 2014). The influence of school culture on school effectiveness has been found in studies concerning school leadership. School culture and related elements of culture have been described by several researchers and authors as an important factor in improving student performance (Leithwood et al., 2004). In addition, research has found a correlation between principals’ behavior and the positive perceptions of school culture (Fiore & Whitaker, 2005). Fiore and Whitaker indicate that strong school cultures within schools create more highly motivated teachers. They also contend that by improving the culture of schools, principals can make the greatest impact in improving environmental factors for teachers (Fiore & Whitaker, 2005).

According to (Afful-Broni, 2005) and Omar and Kavale, (2016) school success also depends on the commitment level of all stakeholders of the school, which invariably affects the atmosphere for teachers and other staff to commit to their respective roles and performances especially in Ghana. Educational performance is the ultimate goal of educational policy makers and governments which serve as a key indicator to move economies. Some previous studies in Ghana such as Mensah, Okyere and Kuranchie (2013) and Boampong, Obeng-Denteh, Issaka and Anamuah-Mensah, (2016) have shown a falling standards of performance among the senior high schools especially in the case of mathematics yet among these studies, leadership styles of the heads of these institutions were found to be good. Therefore, several stakeholders have questioned the cause(s) of the falling standards and the extent to which the performance of the educational institutions especially the senior high schools in Ghana.

Based on this, this study ventured an argument in the following premises. In this study I argued that even though leadership styles and practices of educational leaders and administrators impact on performance, the impact is mediated by school culture. However, studies focused in this direction of these arguments is less explored particularly in Ghana among senior high school educational setting. Investigating the mediation role of school culture and job satisfaction in this study employed a novel statistical computation approach such as the structural equation Modelling

(SEM) to conduct path analyses which is among the pioneering studies in Ghana to utilize this novel computational approach to study this kind of interactions. This study therefore aimed to narrow the existing gap and shortage of literature pertaining to heads leadership styles in relation to school culture and school academic performance in Ghanaian Senior High School settings. Secondly, the findings can be used to help practicing administrators determine possible areas of focus for improving teacher effectiveness and student achievement.

These findings may be particularly relevant for practicing educational leaders in schools identified as low performing schools in need of improvement. Additionally, the findings of this study may be used by state educational leaders and policy making officials to assess current systems of evaluation for principals and other school level executives.

2. METHODOLOGY

The paper investigated the extent to which leadership practices directly and indirectly influence school culture and school performance in Public Senior High Schools in the Kumasi Metropolis in the Ashanti region of Ghana. Based on the objectives of the study, teacher job satisfaction variable served as the mechanism and the mediating variable through which the leadership styles influence school performance. In this study, the quantitative descriptive survey research design was employed to elicit adequate information to answer the research questions of the study. The study was conducted in Fifteen (15) different selected public Senior High schools in the Kumasi Metropolis in Ashanti Region in Ghana.

The Kumasi Metropolis capital city of the Ashanti Region in Ghana. The region is centrally located in the middle belt of Ghana and lies between longitudes 0.15W and 2.25W, and latitudes 5.50N and 7.46N. The region shares boundaries with four of the ten political regions including Brong-Ahafo in the north, Eastern region in the east, Central region in the south and Western region in the South west (GSS, 2012).

The study used the total sample size for the study was 500 respondent's Head masters, assistant Headmasters and teachers. The multi stage sampling method used were the stratified sampling, simple random sampling and the purposive sampling techniques. First, the researcher used proportionate stratified sampling technique. With this, the senior high schools in the Kumasi Metropolis were divided into four strata based on the type of school namely Category A, B, C and D. These categories are determined based on the development of infrastructures, resources and others factors which have the potential to affect school performance. Based on this, the researcher randomly selected five schools from Category A, four schools from Category B, three (3) schools from Category C while three schools were selected from Category D. Schools in the same category have similar features and characteristics. Moreover, since the respondents were Teachers in these senior High schools, the simple random sampling method was again used to select 25% of teachers from each of the schools selected.

In the final stage, the purposive sampling technique was then used to select the headmasters and their immediate assistant headmasters to be part of the respondents for the study. This constituted 15 headmasters and 15 assistant head masters. In all the total sample size of 500 respondents were selected and administered with questionnaires for the data collection.

The study used the structured questionnaires consisting of Likert scale type questions for the data collection from respondents. The Five-Point Likert Scale type responses were used for the study. The questionnaires were developed based on the conceptual framework of the studies, literature review, and the theoretical framework. This Likert scale type Responses ranged from 1-Strongly Agree to 5-strongly Agree. The measuring instrument items were from the following sources. School Performance, Transactional leadership practices, Instructional leadership practices and Transformational leadership practices and School culture (Maslowski,2003). The study employed the path analysis where latent variables were used for the study. Since the variables used for the study cannot be measured directly, a latent variables were used for the path analysis particularly to test the relationship between the variables using the observed variables. The study will utilize the partial least squares Structural Equation Modeling (PLS-SEM) for the analysis of the data. This method was used to examine various pathways and mechanisms through which the leadership practices influence school performance and teacher job satisfaction. . The use of structural equation modeling, the Smart PLS has been proven to be effective software for such analysis involving latent variables and mediation effect (Hair, Ringle & Sarstedt, 2013).

3. RESULTS AND DISCUSSION

This paper investigated the extent to which leadership practices and school culture influence performance among senior high schools in the Kumasi Metropolis in the Ashanti region in Ghana. The paper also examines the extent to which school culture could serve as a channel through which school leadership styles indirectly influence school performance. This section further presents the findings and discussion of the findings including the demographic characteristics of the participants of the study

Demographic Features of Respondents

The respondents of the study constituted teachers, Head of Departments, Headmasters, and Assistant Headmasters in selected Public senior high school in the Kumasi Metropolis in Ghana. The results from the study indicated that, out of the five hundred (500) respondents who participated in the study, 386(77.2%) were males while 114 (22.8) were females. Respondents who took part in the study were predominantly males and this confirms the fact that, in the Kumasi Metropolis teachers in the Public senior high schools are predominantly males where their counterpart female teachers constitute the minority. In terms of age of respondents, the findings reveal that, participants below 30 years constitute 14.8%, 30-40 years were 36.2%, while 39.85 comprised those within 41-50 years. The results show that. Only few of the respondents representing 9.2 % were within 51-60 years. This implies that, majority of the respondents were within 30-50 years. In the case of their highest educational attainment, the results show that, 412 of the respondents representing 82.4% had their first degree while 88 representing 17.6% had their post graduate degrees in different disciplines. These results confirm that the minimum qualification of the teachers in the public senior high schools in Ghana is the first degree. In terms of working experience of the respondents, the results demonstrate that, 20.8% had working experience between 2-5years, whereas 32.4% had 6-10 years of working experience. Similarly, the results show that, 24.85 had 11-15 years working experience while 22% had more than 15years work experience. This shows that, most of the respondents had more than 5 years' work experience.

Assessment of Measurement Constructs

The purpose of the study was to investigate the extent to which leadership styles influence school performance. School culture was included in the model as channels and mechanisms through which the leadership styles among the selected senior high schools influence the school performance. For a successful utilization of the Partial Least Squares-Structural Equation Modeling (PLS-SEM), the Confirmatory factor analyses were first conducted. These latent variables were measured with observed construct items as shown Table 1. The confirmatory factor analyses were computed for the factor loadings of each observed construct indicator which combined to measure each of the latent variables. Results from Table 1 below presents the factors loading of the various observed measurement construct items, standard deviations, the variance inflation factors and the significant values measured as p-values. The confirmatory factor analysis conducted with the Smart-PLS presented a group of factors which constitutes observed indicators construct items which combined

to measure the latent variables. The CFA produced three observed construct indicators for each of the latent variables except Teacher job satisfaction which recorded four items which is a good factor loadings.

The results from Table 1 revealed that, Instructional Leadership Style (3 items) had a factor loading ranging between 0.76-0.892, school performance (3 items) with factor loadings between 0.78-0.905. Likewise transactional leadership (3 items) had a factor loadings of 0.83-0.87 whereas transformational leadership (3 items) had factor loadings of 0.70 -0.88. The results also show that, School Culture had 3 items with a factor loading of 0.78-0.90. The results indicate that, all construct item indicators had factors loadings greater than 0.6 which showed a good factor loadings from the confirmatory factor analyses. However, prior to these results, all the construct items with factor loadings less than 0.5 were dropped from the analyses since their loadings were not within the acceptable thresholds. The results present a minimal standard deviations which implies that, the responses were not widely dispersed and were closed to the average response to the selected construct items. The P-values represent the significant level of the factor loadings for the observed construct indicators. The findings from Table 1 also present VIF values which did not exceed 5 and all the values were within the acceptable range of threshold. The Table 1 below indicated that, all the indicator items measuring the latent variable satisfied the requirement sufficient for the Structural equation model using Smart PLS-SEM bootstrapping 500 times (Hayduk & Littvay, 2012). The Table 1 below present the latent variables, observed construct items, VIF, factor loadings, standard deviation and significant level.

Table 1 Confirmatory Factor Loadings of observed construct indicators

| Latent Variables | VIF | Factor loadings | Standard Deviation | P Values |
|---|-------|-----------------|--------------------|----------|
| INSTRUCT 1←Instructional leadership | 1.544 | 0.763 | 0.039 | 0.000 |
| INSTRUCT 2←Instructional Leadership | 2.059 | 0.892 | 0.014 | 0.000 |
| INSTRUCT 3 ←Instructional Leadership | 1.819 | 0.874 | 0.018 | 0.000 |
| PERFORM 1 ← School Performance | 3.141 | 0.905 | 0.013 | 0.000 |
| PERFORM 2 ← School Performance | 2.951 | 0.896 | 0.013 | 0.000 |
| PERFORM 3 ←School Performance | 1.415 | 0.78 | 0.027 | 0.000 |
| TRANSACT1 ← Transactional Leadership | 1.401 | 0.828 | 0.034 | 0.000 |
| TRANSACT 2 ←Transactional Leadership | 2.137 | 0.859 | 0.028 | 0.000 |
| TRANSACT 3 ←Transactional Leadership | 3.234 | 0.865 | 0.02 | 0.000 |
| TRANSFORM 1 ← Transformational leadership | 3.069 | 0.7 | 0.038 | 0.000 |

| | | | | |
|---|-------|-------|--------|-------|
| TRANSFORM 2 ← Transformational leadership | 1.169 | 0.842 | 0.022 | 0.000 |
| TRANSFORM 3 ← Transformational leadership | 2.203 | 0.876 | 0.015 | 0.000 |
| CULTURE 1 ← School Culture | 2.965 | 0.897 | 52.670 | 0.000 |
| CULTURE 2 ← School Culture | 3.061 | 0.908 | 75.721 | 0.000 |
| CULTURE 3 ← School Culture | 1.434 | 0.785 | 26.880 | 0.000 |

Source: Field Survey

This model is a subcomponent of general conceptual framework developed for the study. In this component of general conceptual framework, the extent to which leadership styles influence school culture was established. Again school culture was utilized as the channel or mechanism and mediating variable through which school leadership styles (Instructional, transactional and transformational) contribute school performance. These interrelationships are demonstrated in the pathway model 2 below.

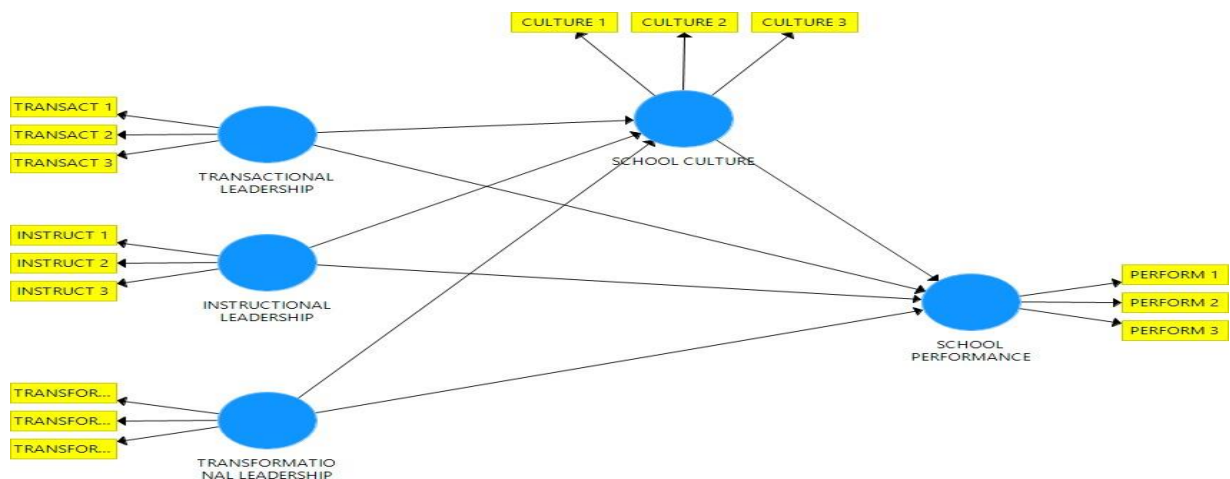


Figure 1 Measurement Model

Source: Author’s construct from Smart PLS Version 3.0

To evaluate this measurement model, the reliability and Validity of the measurement constructs were estimated. The evaluation of the reliability of the measurement constructs were performed using composite Reliability (CR), Rho_A, Average variance extracted (AVE) and Cronbach’s Alpha. These measurements confirm the internal consistencies and reliabilities of the latent variable factors and indicators combined to measure the latent variables in the model. The findings from the study show that the Cronbach’s Alpha for all the latent variables used were above 0.7 which implies that, the latent variables are more reliable and consistent for that matter considered appropriate for the structural equation modeling.

In the same vein, Rho_A CR, and AVE for all the latent variables were again above 0.7 which satisfied the threshold criteria of 0.6 and above and confirms that the items indicators were more reliable and justified to be included in the structural equation model. The measurement model in figure 1 presents the factor loadings of the observed variables which measured the constructs used in model and for the entire study (see table 1 above). The results show that, all the factor loadings of the observed indicators were above 0.6 which implies that, they satisfy the threshold criteria on 0.5 and above. Hence they are then considered to proceed as good measurement construct indicators for the latent variables. The results on reliability tests results of measurement latent constructs utilized in model are presented in Table 2 below.

Table 2 Construct validity and reliability of measurement model

| Latent Variables | Cronbach's Alpha | rho_A | Composite Reliability | Average Variance Extracted (AVE) |
|-----------------------------|------------------|-------|-----------------------|----------------------------------|
| Instructional Leadership | 0.802 | 0.817 | 0.883 | 0.716 |
| School Culture | 0.829 | 0.831 | 0.899 | 0.748 |
| School Performance | 0.825 | 0.825 | 0.896 | 0.743 |
| Transactional Leadership | 0.825 | 0.981 | 0.881 | 0.712 |
| Transformational leadership | 0.731 | 0.732 | 0.846 | 0.647 |

Furthermore, the validity of the measurement model was evaluated based on the discriminant validity using the Fornell-Larcker Criterion. The discriminant validity criterion measure the extent to which the latent variables constructs differ from one another. The results from the Table 3 below depicts the latent variables, numerical values in a major and minor diagonals. The values in the major diagonal represents the square root of AVE of the latent variable constructs while the values in off-diagonals constitute the cross-correlations between the constructs.

The discriminant validity was measured by comparing the differences between the overlapping constructs and the square root of the AVE. The findings from the Table 3 below demonstrates that, the difference between the cross correlations and the square root of the AVE are minimum values and therefore acceptable and satisfied for further analyses of to establish their structural relationships in the model.

Table 3 Discriminant validity (Fornell-Larcker Criterion) of measurement model

| Latent variables | Instructional Leadership | School Culture | School Performance | Transactional Leadership | Transformational leadership |
|-----------------------------|--------------------------|----------------|--------------------|--------------------------|-----------------------------|
| Instructional Leadership | 0.846 | | | | |
| School Culture | 0.452 | 0.865 | | | |
| School Performance | 0.491 | 0.523 | 0.862 | | |
| Transactional Leadership | 0.086 | 0.360 | 0.378 | 0.844 | |
| Transformational leadership | 0.433 | 0.545 | 0.586 | 0.481 | 0.804 |

The colinearity test was also conducted for the latent construct variables of model using the Variance Inflation Factor (VIF) approach. The appropriate threshold for VIF test is such that the values must be below 5 but above 0.2. The VIF values within this range means that there is no colinearity among the independent latent construct variables used in the model. The results from table 4 below depicts that the values of VIF values from the analyses ranged from 1.2-1.80. This implies that, the VIF Values for all the latent construct variables are within the threshold which means that colinearity was not an issue in the model. Hence the multiple regress was justified to be computed through the PLS-SEM technique. The results from the analysis of the VIF values are presented in the Table 4 below.

Table 4 Variance Inflation Factor (VIF) of latent construct variables

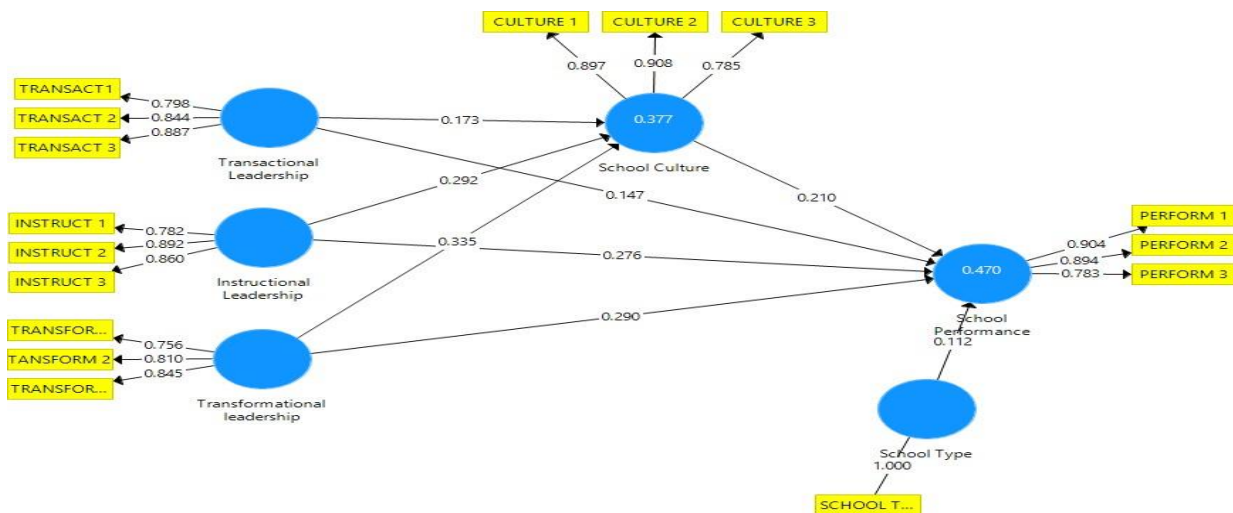
| Latent Variables | School Culture | School Performance |
|-----------------------------|----------------|--------------------|
| Instructional Leadership | 1.261 | 1.412 |
| School Culture | - | 1.643 |
| School Performance | - | - |
| School Type | - | 1.055 |
| Transactional Leadership | 1.333 | 1.383 |
| Transformational leadership | 1.629 | 1.820 |

Assessment of Structural equation Model

The model also indicates the direct pathway coefficients as well as coefficient of determination (R2) as well as shown in Figure 2 The results from Figure 2 below gives the coefficient of determination

(R²= 0.377) which implies that, the model explains about 37.7 5 of the changes in dependent variable (School culture). Likewise, the coefficient of determination (R²= 0.470) which suggest that, about 47% of the changes in the dependent variable (school performance) are explained by the model. In this model, school culture was used as a mediating variable which served as the mechanism through which the school leadership styles namely the instructional, transactional and transformational leadership styles. The structural relationship between these latent variables are presented in the measurement model (see Figure 3 below). The results from the model fitness summary revealed that, the estimated model has an acceptable Standardised Root Mean Residuals (SRMR) values of 0.073 was used to assess the average magnitude of the discrepancies between the observed construct indicators and their expected values of correlation to measure the model fitness. Furthermore, the model Fit Index (NFI) which measured the incremental fit of the model was 0.961 which was appropriate and met required threshold value of above 0.90 and above.

Direct Path Way Coefficients



The structural equation model examined the structural relationship between school leadership styles, school culture and school performance through structural equation modeling approach. Results from Table 5 show that, school leadership styles had statistically significant positive relationship with school culture. The findings reveal that, instructional leadership ($\beta=0.292$, $P<0.01$), transactional leadership ($\beta=0.147$, $P<0.01$) and transformational leadership ($\beta=0.335$, $P<0.01$) had statistically significant and positive impact on school culture at 1% levels of significant.

The results indicate that, improvement in the application of school leadership styles such as instructional, transactional and transformational tend to improve school culture and the vice versa. Nevertheless, based on the coefficients, the results suggest that, the adoption of transformational leadership style constitute greatest influence on school culture compared with other styles. The results again, confirm that, the increased employment of the leadership styles: instructional,

transactional and transformational contribute significantly and positively to school performance at 1% levels of significance.

Importantly, the results from Table 5 show that, improvement in school culture ($\beta=0.210$, $P<0.01$) had statistically significant and positive impact on school performance. school type ($\beta=0.112$, $P<0.01$) used as a control variable also had statistically significant and positive impact on school performance. The results are presented in the table 5 below.

Table 5 Direct Path way coefficients on the effect of the School Leadership Styles on School Culture and School Performance

| Structural relationships | Coefficient (β) | Standard Deviation | T Statistics | P Values |
|---|-------------------------|--------------------|--------------|----------|
| Instructional Leadership →School Culture | 0.292*** | 0.052 | 5.561 | 0.000 |
| Instructional Leadership →School Performance | 0.276*** | 0.061 | 4.490 | 0.000 |
| School Culture → School Performance | 0.210*** | 0.059 | 3.543 | 0.000 |
| School Type →School Performance | 0.112*** | 0.041 | 2.748 | 0.006 |
| Transactional Leadership → School Culture | 0.173*** | 0.058 | 2.975 | 0.003 |
| Transactional Leadership →School Performance | 0.147*** | 0.056 | 2.593 | 0.010 |
| Transformational leadership →School Culture | 0.335*** | 0.057 | 5.871 | 0.000 |
| Transformational leadership →School Performance | 0.290*** | 0.052 | 5.528 | 0.000 |

Note: → denote the direction of effect from the pathways analysis

Note: ***, **, * denote 1%, 5% and 10% level of significant levels respectively

Mediation Effect of School Culture

To test these research hypotheses, the study examined the extent to which school culture plays a mediating role between school leadership styles and school performance. Results from Table 6 below show that, instructional leadership practice had statistically significant and positive impact on school

performance through school culture ($\beta=0.061$, $P<0.01$). This implies that, increasing practice of instructional leadership style had significant influence on improving school performance through school culture. Similarly the results indicates that, transactional leadership practice had a significant positive influence on school performance through school culture ($\beta=0.036$, $P<0.05$).

Furthermore, the findings portray that transformational leadership also influence school performance through school culture ($\beta=0.071$, $P<0.01$) statistically significant at 1% level. The results indicate that, school culture served as a partial mediation and a mechanism through which school leadership styles influence school performance. The results from the mediation analysis is presented in Table 6 below.

Table 6 Indirect pathway coefficient on the effects of School Leadership Styles on School Performance through school culture as a mediating variable.

| Structural relationships | Coefficient (β) | Standard Deviation | T Statistics | P Values |
|---|-------------------------|--------------------|--------------|----------|
| Instructional Leadership →School Culture →School Performance | 0.061*** | 0.019 | 3.165 | 0.002 |
| Transactional Leadership → School Culture →School Performance | 0.036** | 0.015 | 2.455 | 0.014 |
| Transformational leadership →School Culture → School Performance | 0.071*** | 0.024 | 2.930 | 0.004 |

Note: → denote the direction of effect from the pathways analysis
 Note: ***, **, * denote 1%, 5% and 10% level of significant levels

The paper examined the relationships between leadership practices, school culture and school performance by utilizing the multiple regressions through the Partial Least Square Structural equation modeling (SEM). The results indicate that, instructional, transactional and transformational leadership practices have positive and statistical significant impact on school culture correspondingly were supported at 1% level of statistical significance:

The results from the study depict that, the leadership styles considered have statistically positive impact on school performance. Leaders’ practices such as transactional and transformational contribute positively to positively facilitating the norms, or informal rules that govern behaviour and performance in the school environment. Good leadership can influence school performance such that they are able to provide well and conduce environment, effective and committed teachers will remain in the school and work hard to improve the performance in the school. Findings from

the study are in line with that of Hou, Cui, & Zhang, D. (2019); Omar, & Kavale, (2016) who confirmed that, leadership styles practiced in the educational institutions have positive effect on school performance.

The findings also support the study by Afful-Broni, (2005), who argued that school success also depends on the commitment level of all stakeholders such as leadership and teachers of the school who contribute directly to the achievement and outcomes of the school activities particularly through teaching and learning activities. The findings from the present study suggest that the kind of leadership styles employed in the senior high schools can significantly influence the quality of teaching, learning, student achievement and improvement in the overall school performance. The findings confirm that, transformational leadership has a greatest impact of school performance compared to instructional and transactional leadership styles. This finding support the views of Day (2016) who articulated that concentration of leadership should be on promotion of better outcome, quality teaching and learning environment.

Hence Transformational leadership which primarily focuses on student achievement and quality teaching can best contribute to school performance. The findings from this study justifies that for a leadership style have positive effect on school performance it must cause improvement in teaching and learning, infrastructure, maintaining disciplines among students and staff. The findings from this study also agree with findings from (Robinson, 2008, Shatzer, 2014) who conclude that leadership can influence student achievement, primarily through improvements in teacher's work conditions and overall school performance.

Further, the results confirm that, school culture could serve as the mechanism or mediating factor through which leadership practice count influence school performance. If leadership does not contributes to conducive school culture, as a results, effective teaching and learning will be touted. More experience teachers and hardworking personnel may not remain in the school and through that, the performance of the school may be impeded. The results has demonstrated that, leadership practices such as the instructional leadership has a greater impact on school culture. Increasing practice of instructional and transformation leadership improve school culture and hence school performance. These findings are in line with studies such as Engels, Hotton, Devos, Bouckennooghe, and Aeltermann (2008) and Leithwood et al.2004,) who found that if school leaders are able to maintain good school culture, it can have a significant impact on continuity in instruction, adequate teaching expertise for making curriculum decisions and providing support and mentoring, and resources for effective performance of teachers and students in the school. School learners must also further understand that, school culture is not always stagnant. It is constantly being built and shaped through interactions with others and through reflections on life and the world in general. Therefore it needs leadership which is more dynamic and transform to be able to develop such elements of the school culture to be able to translate to school performance. In the mediation analysis, it is clear that school leadership styles are crucial to shape school culture and trough that performance is improved.

Evidence from Rhodes et al., (2009) agree with this findings that even students who do not experience a supportive school culture may never achieve proficiency or academic. This implies that there is a strong positive and significant relationship between leadership styles, school culture and supportive learning. It is of great importance to stress that, school leaders should be building a knowledge friendly culture by developing new skills and identifying strategies that will allow them to shape the culture of the school and to improve school performance.

Empirically, the results suggest that school leaders should create a positive school culture and through that, the development goals and achievement outcomes can be attained. Results from this study are in line with Leithwood et al., (2004) who articulated that effective leadership skills and a positive school culture are crucial for high school performance, and transformational leadership is an effective style to accomplish this goal.

Importantly, for high performance standards can be achieved, it begins from the quality of school culture and the extent to which all the members of the staff have accepted the school culture with a promising teaching and learning environment. This Suggests that all members of staff must have the mindset that their school culture is safe, accepting, and sensitive to meeting individual needs. In this sense, school leaders being instructional, transactional and transformational must ensure that, good school culture is attained and if possible improved on such that the expected improvement in school performance can be achieved. Since good school culture motivate teachers to give out their best, it becomes a necessary tool to achieve a promising academic performance and overall development in the school.

4. CONCLUSION

The present study employed the Partial Least Square Structural Equation Modeling (PLS-SEM) approach to investigate the extent to which school leadership styles practiced affect school performance in the Public Senior High Schools in the Kumasi Metropolis in Ghana. The mediation effect of schools culture was used as the channel or mechanisms through which leadership styles indirectly contribute to school performance. The Smart PLS-SEM computer software version 3.0 was used. With this, both the measurement model and structural models were assessed to achieve the objectives.

The results from the study further indicate that, instructional, transactional and transformational leadership have statistically significant and positive influence on The results from the path analysis suggest that, increasing adoption of instructional, transactional and transformational leadership styles tend to improve school performance and school culture. The results depict that, transformational leadership tend to contribute greatest improvement to school performance than other.

The findings also revealed that, instructional leadership, transactional and transformational leadership styles had statistically significant and positive impacts on school culture. In that apart, the

results indicate that, transformational leadership style had much influence on improving school culture than other leadership styles. Likewise, results confirmed that school culture had statistically significant impact on school performance. The present study again utilized school culture as the channel and mediating variable through which school leadership styles influence school performance. The results indicate that, school culture served as a partial mediation effect on the relationship between school leadership styles (instructional, transactional and transformational) and school performance.

In conclusion, the present study demonstrates that, leadership practices in the public senior high schools have statistically significant positive impact on school performance and school culture. Instructional leadership styles had greatest effect on school performance, while transformational leadership also had greatest effect on school culture based on the regression coefficients. Through pathway and the mediation analyses, the study highlights that, school culture served as significant channels and mediating variables through which leadership styles affect school performance.

The outcome of this study has a relevant contribution to practicing educational leaders in schools identified as low performing schools which need improvement in their performance. As the study identified the direct and indirect pathways through which leadership contributes to school performance, these findings are useful for school leaders to employ transformational leaders' styles, and transaction in tandem with much emphasis on school culture in order to increase school performance.

REFERENCES

- Afful-Broni, A. (2005). Theory and practice of educational leadership in Ghana. Accra:Yamens Press Ltd
- Aydin, A., Sarier, Y., & Uysal, S. (2013). The Effect of School Principals' Leadership Styles on Teachers' Organizational Commitment and Job Satisfaction. *Educational Sciences: Theory & Practice*, 13(2), 806-811.
- Bensimon, E. M., Neumann, A., & Birnbaum, R. (2000). Higher education and leadership theory In: M. Christopher Brown. *Organization governance in higher education*. (5th ed.). Boston: Pearson Custom Publishing.
- Bhengu, T. T., & Mthembu, T.T.(2014). Effective leadership, school culture and school effectiveness: A case study of two 'sister' schools in Umlazi Township. *Journal of Social Sciences*, 38(1), 43-52.
- Boampong, S., Obeng-Denteh, W., Issaka I., & Anamuah-Mensah, A. P. (2016). The Effects of Leadership Styles of Head Teachers on Academic Performance at Seniagya – Effiduase Sekyere East in the Ashanti Region. *British Journal of Education, Society & Behavioural Science*, 17(3), 1-12.
- Choi, A., & Gil, M. (2017). Does school leadership affect student academic achievement? Barcelona: Fundació Jaume Bofill, Ivàlua.
- Davis, M. (2014). The relationship between distributed leadership, school culture, and teacher self-efficacy (Doctoral dissertation, Grand Canyon University, 2014). Ann Arbor, MI: ProQuest LLC.

- Day, C., Gu, Q., & Sammons, P. (2016). The impact of leadership on student outcomes: How successful school leaders use transformational and instructional strategies to make a difference. *Educational Administration Quarterly*, 52, 221-258.
- Engels, N., Hotton, G., Devos, G., Bouckenooghe, D., and Aelterman, A. (2008). Principals in schools with a positive school culture. *Educational Studies*, 34(3), 159-174.
- Ezeh, L. (2008). Influence of gender and leadership style on career commitment and job performance of subordinates. *Global Journal of Humanities*, 7(1), 1-8.
- Fiore, D., & Whitaker, T. (2005). Six types of teachers: Recruiting, retaining and mentoring the best. Larchmont, NY: Eye on Education, Inc.
- Ghana statistical services (2012). Ghana population and housing census. Regional report and mapping.
- Hair, Joseph F, Christian M Ringle, and Marko Sarstedt. 2013. "Partial least squares structural equation modeling: Rigorous applications, better results and higher acceptance." *Long range planning* no. 46 (1-2):1-12.
- Hayduk, L. A., & Littvay, L. (2012). Should researchers use single indicators, best indicators, or multiple indicators in structural equation models? *BMC Medical Research Methodology*, 12(1)
- Heaven, G., & Bourne, P. A. (2016). Instructional Leadership and Its Effect on Students' Academic Performance. *Review Pub Administration Manag*, 4(3).
- Hou, Y., Cui, Y., & Zhang, D. (2019). Impact of instructional leadership on high school student academic achievement in China. *Asia Pacific education Review*, 20(4), 543-558.
- Kouzes, J. M., & Posner, B. Z. (2003). *The leadership challenge* (3rd ed.). San Francisco, CA: Jossey-Bass.
- Leithwood, K., Jantzi, D. (2006). Principal and teacher leadership effects: A replication. *School Leadership and Management*, 20, 415-434.
- Leithwood, K., Jantzi, D., Earl, L., Watson, N., & Fullan, M. (2004). Strategic leadership for large-scale reform. *School Leadership and Management*.
- Lezotte, L. W., & McKee, K. M. (2006). *Stepping up: Leading the charge to improve our schools*. Okemos, MI: Effective Schools Products.
- Maslowski, R. (2003). School culture and school performance: an explorative study into the organizational culture of secondary schools and their effects.
- Maslowski, R. (2003). School culture and school performance: An explorative study into the organizational culture of secondary schools and their effects. Twente, University Press.
- Mensah, J. K., Okyere, M., & Kuranchie, A.(2013). Student attitude towards mathematics and performance: Does the teacher attitude matter. *Journal of Education and Practice*, 4(3), 132-139.
- Omar, A. M., & Kavale, S. (2016). Effect of leadership style on school performance of the secondary schools in Wadajir district, Mogadishu, Somalia. *Journal of Applied Management Science*, 2(5), 52-70.
- Peterson, K., & Deal, T. (2002). *The shaping school culture field book*. San Francisco, CA: Jossey-Bass

- Rhodes, J. E., Camic, P. M., Milburn, M., & Lowe, S. R. (2009). Improving middle school climate through teacher-centered change. *Journal of Community Psychology*, 37(6), 711- 724.
- Robbins, S. P., & Judge, T.A. (2011). *Organisational Behavior*, 14th Edition.
- Robinson, V. M. J., Lloyd, C. A., & Rowe, K. J. (2008). The impact of leadership on school outcomes: An analysis of the differential effects of leadership types. *Educational Administration Quarterly*, 44(5), 635-674.
- Ross, J.A. and Gray, P. (2006) Transformational Leadership and Teacher Commitment to Organizational Values: The Mediating Effects of Collective Teacher Efficacy. *School Effectiveness and School Improvement*, 17, 179-199.
- Schoen, L., & Teddlie, C. (2008). A new model of school culture: A response to a call for conceptual clarity. *School Effectiveness and School Improvement*. 19(2), 129-153.
- Shatzer, R. H., Caldarella, P., Hallam, P. R., & Brown, B. L. (2014). Comparing the Effects of Instructional and Transformational Leadership on Student Achievement: Implications for Practice. *Educational Management Administration & Leadership*, 42, 445-459.
- Wangithi, G. J. (2014). Influence of head teachers' leadership styles on teachers' job satisfaction in public primary school in Kajiado North District, Kajiado County, Kenya. Unpublished.
- Wiles, J., & Bondi, J. (2004). *Supervision: A guide to practice* (6th ed.). Upper Saddle River, NJ: Pearson Education, Inc.