

## THE EFFECT OF MOTIVATION ON THE PERFORMANCE OF TEACHING STAFF IN GHANAIAN POLYTECHNICS: THE MODERATING ROLE OF EDUCATION AND RESEARCH EXPERIENCE

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**ABSTRACT:** *Motivation has been empirically confirmed to be a major driver of employee performance. This paper assesses the effect of motivation on the performance of teaching staff of Ghanaian polytechnics, with the moderating role of research experience and highest education attained captured. A quantitative research technique is employed in this study. The target population of the study was teaching staff who had taught in Ghanaian polytechnics for at least 2 years, had a minimum of a second degree, and had some level of research experience. Simple and stratified sampling procedures were used to select 465 respondents. The study confirms a significant positive correlation between motivation and performance among teaching staff of Ghanaian polytechnics,  $r(408) = .892, p < .05$ . In this respect, motivation accounts for 79.5% of the variation in performance. Moreover, highest education attained and the research experience of teaching staff influence both motivation and performance. This means that teaching staff of polytechnics in Ghana can maximise their motivation and performance by improving their education and research experience.*

**KEYWORDS:** Motivation, performance, teaching staff, polytechnics, higher educational institutions, education, research experience

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### INTRODUCTION

Undoubtedly, education is the engine of growth of every nation and economy. This is because economic growth is driven by the productivity of a nation's workforce, whereas productivity of any workforce is dependent on its education. As a result, virtually all nations give priority to the education of their citizens, ensuring that as many citizens as possible have access to education. It is worth saying that the impact of education on society becomes better as the number of people with access to higher education increases. This is because higher education is a stage of education where people are finally prepared to contribute their quotas to socio-economic development. Yet, the impact of higher education is identified to be influenced by some factors, among which motivation of teaching staff stands tall (Rasheed, Aslam & Sarwar, 2010; Afful-Broni, 2012; Asim, 2013).

The ability of graduates of higher educational institutions (HEIs) to contribute credible quotas to socio-economic development practically depends on how well they are taught in the HEIs. Teaching staff therefore have a major role to play in ensuring effectiveness in higher education in every country. In every HEI therefore, the quality of education is contingent on the

performance of teaching staff (Rasheed et al., 2010; Shah, Ur-Rehman, Akhtar, Zafar & Riaz, 2012). To maximise the performance of teaching staff in HEI, teachers and instructors with higher educational qualifications, often a minimum of a second degree in a suitable subject, are used (Shah et al., 2012; Rasheed et al., 2010). Moreover, every HEI expects to use instructors and tutors with the highest educational qualification as a basis of effective teaching and learning in its environment. Training and exposure to research work are other basic measures instituted by HEIs to maximise the performance of teaching staff (Shah et al., 2012; Afful-Broni, 2012; Asim, 2013).

Empirical studies have shown that the level of education, training and exposure to research work are moderators of the performance of teaching staff in a HEI (Shah et al., 2012). Thus the actual driver of performance is motivation of teaching staff. Studies have shown that the performance of teaching staff in a HEI is positively correlated to performance (Rasheed et al., 2010; Shah et al., 2012; Afull-Broni, 2012; Asim, 2013). This implies that as motivation for teaching staff is enhanced, their performance is also improved. This evidence is also supported in industry (Uzonna, 2013; Zameer, Ali, Nisar & Amir, 2014), and in both developed and developing countries (Uzonna, 2013). Specifically in the higher educational sector, the positive relationship between motivation and performance is moderated by training, level of education and research experience (Rasheed et al., 2010; Shah et al., 2012). In this respect, training, level of education and research experience is more likely to make an effect on performance and its relationship with motivation.

A personal survey of empirical studies confirmed that academic debate on the effect of motivation on the performance of teaching staff of HEIs in Ghana is weak. Very few studies (e.g. Afull-Broni, 2012) have been conducted in this respect. Moreover, available studies fail to capture the moderating role of training, level of education and research experience, and are therefore unable to throw light on the relevance of higher education and research experience to the effectiveness of teaching in HEIs. Other related studies such as those of Osei (2011) and Seniwoliba & Nchorbono (2013) have little bearing with higher education. After about four years of the implementation of the Single Spine Salary Policy (SSSP) in Ghana, a lack of empirical evidence on the effect of motivation on the performance of teaching staff of public HEIs is woeful. This is because the absence of this evidence clouds knowledge about how the policy has influenced performance among lecturers and tutors of public HEIs in Ghana. In view of this problem and gaps in the subject's literature, this study is conducted to assess the effect of motivation on the performance of teaching staff in HEIs in Ghana. The moderating roles of education and research experience are also examined.

This study is limited to Ghanaian polytechnics owing to a lack of adequate resources to cover all public HEIs in Ghana. Moreover, teaching staff in polytechnics in Ghana have the same motivational policy relative to teaching staff in the public universities and other public HEIs. It is believed that evidences drawn from polytechnics in this study can be a reflection of other public HEIs in Ghana. Yet, this study does not capture "training" as a moderator of the relationship between motivation and performance. This is because teaching staff in most Ghanaian polytechnics lack formal training on the job.

## **Objective of the Study**

This paper assesses the effect of motivation on performance among teaching staff of Ghanaian polytechnics. The paper also examines the moderating effect of highest education obtained and research experience in the motivation-performance relationship.

The study contributes to academic debate on the effect of motivation on performance, and shares knowledge on the dependence of this effect on research experience and the highest educational level attained teaching staff of HEIs. This study is primarily important in view of the fact that academic debate on the subject from a Ghanaian point of view is grossly limited.

## **LITERATURE REVIEW**

Many contemporary writers and researchers have expressed their view on the concept of motivation. Motivation has been defined as the psychological feature that stimulates an organism to action toward a desired goal, and elicits controls and sustains certain goal directed behaviours (Wigfield, 2004). Motivation has also been defined as the psychological process that gives behaviour purpose and direction (Kreitner, 1995); a predisposition to behave in a purposive manner to achieve specific, unmet needs (Buford, Bedeian, & Lindner, 1995); an internal drive to satisfy an unsatisfied need (Higgins, 1994).

In the 1950's psychologist Frederick Herzberg proposed a theory of motivation that focuses on the job and on the environment where work is done (Tyner, 2007). Herzberg studied various factors relating to the job and their relation to employee motivation and concluded that they can be divided into hygiene factors and motivational factors (Tyner, 2007; Mahmood & Mahmood, 2010). Hygiene factors, which relate to the work setting and not the content of the work, include adequate wages, comfortable and safe working conditions, fair company policies, and job security (Van Herpen et al., 2003; Tyner, 2007). These factors do not necessarily motivate employees to excel but will definitely have an effect on the employees performance and their absence may be a potential source of employee dissatisfaction (Tyner, 2007).

Many people feel that a good salary is one of the most important job factors, even more important than job security and the chance to use one's mind and abilities (Tyner, 2007; Mahmood & Mahmood, 2010). Salary and security, two of the hygiene factors identified by Herzberg, make it possible for employees to satisfy the physiological and security needs identified by Abraham Maslow in his theory of needs. However, the presence of hygiene factors is unlikely to motivate employees to work harder. Motivational factors, which relate to the content of the work itself, include achievement, recognition, involvement, responsibility, and advancement (Tyner, 2007). The absence of motivational factors may not result in dissatisfaction, but their presence is likely to motivate employees to excel.

The practical implications of Herzberg's theory apply to all employees, including teaching staff of higher educational institutions. In Ghana, motivation takes the dimensions of hygiene factors and motivational factors (Afful-Broni, 2012; Ampofo, 2012; Asim, 2013; Bonsu & Kusi, 2013). Literature on the subject in a Ghanaian context indicates that teaching staff of HEIs are much

more motivated by the hygiene factors, particularly, salaries and allowances (Afful-Broni, 2012; Ampofo, 2012). However, the effect of the motivational factors on employee performance is also much appreciable (Afful-Broni, 2012; Osei, 2011). Generally, Herzberg's theory supports the effect of motivation on employees' performance regardless of the sector involved. Yet, the effect of motivation (i.e. the hygiene and motivational factors) is based on the dimensions of motivation used in the tertiary institution.

In the context of this paper, the dimensions of motivation refer to how HEIs should structure their motivational scheme and policy. There are four basic dimensions of employee motivation in this respect, and they are also factors that influence the level of motivation among employees at a point in time (Manzoor, 2012; Mahmood & Mahmood, 2010). The first dimension is self-motivation by managers (Mahmood & Mahmood, 2010). Since employees occupy a central position in any organisation, business owners are constantly seeking ways to get to understand this very crucial resource and are constantly seeking ways to keep employees motivated. The issue of employee motivation is especially critical for managers and supervisors who have much explaining to do when things go wrong in the areas where they have been placed in charge of employees. The second dimension of motivation is aligning goals of organisation with those of employees (Choong et al., 2011; Dobre, 2013). To obtain the best possible output from teaching staff of HEIs and therefore make them contribute to the company's well-being, it is important that the goals of the organisation are aligned with those of the employees. As part of the HEI's strategic planning, the institution should spell out clearly defined goals that teaching staff need to achieve. To achieve the best results, it is important that teaching staff also make an input. This system of employees' motivation ensures that the goals of the institution are aligned with those of the teaching staff. The third dimension of motivation is making work conditions flexible (Manzoor, 2012; Dobre, 2013). What complicates human resource management is the fact that each individual employee reacts to different scenarios differently. This can make employees' motivation rather complicated because management will need to find out what motivates each employee. While some people are motivated by additional income, others are motivated by the ability to spend more time with their families while others simply want their efforts recognised. It really is the business of the management to find out what motivates each employee. Asking the employees or observing them will give management an idea on the direction the company's motivation program should follow.

The fourth dimension of motivation is making physical work environment conducive (Rasheed et al., 2010). When Frederick Herzberg researched the sources of employee motivation during the 1950s and 1960s, he discovered a dichotomy that still intrigues and baffles managers: The things that make teaching staff of HEIs satisfied and motivated on the job are different in kind from the things that make them dissatisfied. If employees are asked about what makes them unhappy at work, they would talk about insufficient pay or an uncomfortable work environment, or "stupid" regulations and policies that are restraining or the lack of job flexibility and freedom. With respect to teaching staff of HEIs, environmental factors can be de-motivating, but even if managed brilliantly, fixing these factors would not motivate people to work harder or smarter.

Based on the above four dimensions of motivation, empirical evidences (e.g. Afful-Broni, 2012; Rasheed et al., 2010; etc.) point of the fact that motivation positively influence performance among staff of HEIs. This evidence relates to industry as well (Ali et al., 2012; Muogbo, 2013).

Yet, the subjects of research experience and educational status play a critical role in the relationship between motivation and performance among teaching staff of HEIs. This is because promotion in HEIs for teaching staff is based on educational qualification and research experience, where research experience is often measured in terms of how many standard academic publications one has made. It is therefore required that studies assessing the effect of motivation on the performance of teaching staff of HEIs in Ghana capture the moderating roles of highest education acquired and research experience. Unfortunately, most of the studies conducted in a Ghanaian context fail to do so. Also, very few studies (e.g. Afull-Broni, 2012) have been conducted in Ghana to assess the effect of motivation on the performance of teaching staff of HEIs. Other related studies such as those of Osei (2011) and Seniwoliba & Nchorbono (2013) have little bearing with higher education.

This study is therefore conducted to assess the effect of motivation on the performance of teaching staff in HEIs in Ghana, with the moderating roles of education and research experience are also examined. The alternative hypotheses tested in this study are as follows:

H<sub>1</sub>: Motivation makes a positive effect on performance among teaching staff of HEIs in Ghana.

H<sub>2</sub>: Research experience moderates the relationship between motivation and performance among teaching staff of HEIs in Ghana.

H<sub>3</sub>: Highest education acquired moderates the relationship between motivation and performance among teaching staff of HEIs in Ghana.

## **METHODS AND MATERIALS**

In this study, a quantitative research approach was employed because the researchers intended to adopt random sampling procedures and statistical inference that would form a basis of generalising results over the chosen population. Statistical inference and the use of random sampling procedures better goes with a quantitative study (Creswell, 2003). The population of this study was teaching staff (i.e. lecturers and tutors) of Ghanaian polytechnics. All polytechnics were incorporated into the population, except Tamale Polytechnic, Bolgatanga Polytechnic, Wa Polytechnic and Sunyani Polytechnic. So data was collected from six (6) out of ten (10) polytechnics in Ghana. Four (4) polytechnics were not incorporated into the population owing to the fact that the researchers did not have sufficient funds and time to do so. However, the 6 polytechnics incorporated into the study are believed to fairly represent teaching staff of Ghanaian polytechnics since the population of teaching staff in the four polytechnics not considered in this study constitutes a very minor part of teaching staff of polytechnics in Ghana.

The sampling frame for teaching staff was made up of lecturers (of all ranks) who had been working in their respective polytechnics for at least two (2) years. Teaching staff were expected to have been affiliated to their respective polytechnics for at least 2 years to ensure that their responses were based on sufficient experience with the motivation structure and policy of the polytechnic.

The number of teaching staff in the sampling frame was 851. The sampling principle of Krejcie & Morgan (1970) suggests that a sample size of 265 is appropriate for a population of approximately 851 people. Yet, the researchers decided to increase the sample size from 265 teaching staff to 500 teaching staff members since not all polytechnics were incorporated into the population. Krejcie & Morgan (1970) agree to this upward adjustment of sample size and contend that it improves the representativeness of a sample.

A self-administered questionnaire for teaching staff members was used to collect data. Performance was measured using the likert scale employed in the study of Rasheed et al. (2010). Motivation on the other hand was measured based on items and scale employed in the study of Kiruja & Mukuru, (2013). The scales and items of Rasheed et al. (2010) and Kiruja & Mukuru, (2013) were used because the researchers realised that they are more suited to the motivational policies of the chosen polytechnics in Ghana. Highest education attained was measured on a five-point likert scale made of three manifest variables. The manifest variables are highest education of the teaching staff member, the number of postgraduate qualifications acquired, and the number of professional qualifications acquired. Research experience was measured by asking teaching staff to indicate how many academic articles they had written and published in peer-reviewed journals of acceptable standard.

In data collection, some teaching staff members could not respond to questionnaires evidently owing to personal reasons. Consequently, 408 questionnaires were considered in data analysis out of 500. This means that the study's response rate was 82%.

Data was analysed using Statistical Package for the Social Sciences (SPSS), Version 21. We used this statistical software owing to its robustness for quantitative data analysis. Pearson's correlation test was first used to identify the strength and nature of the relationship among variables. The regression analysis was then used to better relate dependent variables to independent variables. The partial correlation test was used to test for the moderating role of research experience and highest education attained in the motivation-performance relationship. These chosen statistical tools were used basically because data employed were continuous and were confirmed to be normally distributed using Shapiro-Wilk test of normality. Chronbach's alpha was also used to verify the reliability of the research instruments used. The reliability coefficient obtained was 0.828. The confirmed normality and reliability of data provided a basis for reaching valid conclusions in this study.

## **Findings**

In this section, results of this study are presented. As a reminder, data associated with this analysis is continuous. Moreover, its analysis is carried out using parametric statistical tools. Hence, there is the need to ensure that one condition is satisfied as a basis of reaching valid conclusions and results. This condition has to do with the need for data associated with all variables to be normally distributed. In Table 1, this condition is tested for.

**Table 1: Tests of Normality**

	Shapiro-Wilk		
	Statistic	df	p-value
Motivation	.232	408	.128
Performance	.267	408	.101
Highest education	.263	408	.107
Number of postgraduate qualifications	.246	408	.119
Number of professional qualifications	.375	408	.097
Research experience	.230	408	.143

Table 1 shows results of the Shapiro-Wilk's test of normality. The default hypothesis is that data associated with each variable is normally distributed. This test is conducted at 5% significance level. For the hypothesis to be true, the p-value for each variable must be greater than the chosen level of significance. Evidently, this condition is satisfied for all variables. This suggests that the normality of data assumption is satisfied for all variables, providing a basis for reaching valid conclusions in this study. Table 2 shows the correlation between motivation and performance.

**Table 2: Correlation between Motivation and Performance**

		Motivation	Performance
Motivation	Pearson Correlation	1	.892**
	Sig. (1-tailed)		.000
	N	408	408
Performance	Pearson Correlation	.892**	1
	Sig. (1-tailed)	.000	
	N	408	408

\*\* . Correlation is significant at the 0.05 level (1-tailed).

Table 2 shows the correlation between motivation and performance. The null hypothesis is that motivation does not correlate with performance among teaching staff in the polytechnics. This hypothesis is tested at 5% significance level. From the table, the test is significant,  $r(408) = .892$ ,  $p < .05$ . This means that the performance of teaching staff increases as their motivation increases. Tables 3 to 5 shows the regression analysis associated with this relationship.

**Table 3: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.892 <sup>a</sup>	.795	.795	.37733

a. Predictors: (Constant), Motivation

Table 3 shows the model summary of the prediction of performance from motivation. From the table, motivation accounts for about 79.5% of the variation in performance, whereas the error term accounts for 20.5%. The variation accounted indicates that performance is a strong driver of employee performance. The small standard of error value suggests that this estimate (i.e. the variation accounted) is precise. Table 4 shows an ANOVA test of the regression analysis.

**Table 4: ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	224.546	1	224.546	1577.088	.000 <sup>b</sup>
	Residual	57.806	406	.142		
	Total	282.353	407			

a. Dependent Variable: Performance

b. Predictors: (Constant), Motivation

Table 4 shows the ANOVA test associated with the prediction of performance from motivation. This test is used to identify whether the regression analysis is a better way of expressing the relationship between performance and motivation. The verification is done at 5% significance level. From the table, the test is significant,  $F(1, 406) = 1577.088$ ,  $p < .05$ . This suggests that the regression analysis is a better way of expressing the relationship between performance and motivation. Table 5 shows the coefficients of the regression analysis.

**Table 5: Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	1.054	.074		14.311	.000	.909	1.199
	Motivation	.925	.023	.892	39.713	.000	.879	.971

a. Dependent Variable: Performance

Table 5 shows the coefficients of the prediction of performance from motivation. From the table, motivation significantly predicts performance at 5% significance level, ( $t = 39.71$ ,  $p = .000$ ). Moreover, a unit change in motivation changes the conditional mean of performance by a value of 0.925 within a confidence interval of 0.879 to 0.971. The relationship between motivation and performance is expressed as follows:

$$\text{Performance} = 0.93 * \text{Motivation} + 1.05$$

The model shown reveals that motivation makes a positive effect on performance. Consequently, motivation significantly and positively influences motivation of teaching staff in the selected polytechnics in Ghana. Yet, this relationship is possibly moderated by education and research experience as conceptualized in the literature. We would verify this using Tables 6 and 7.



**Table 6: Correlation Matrix 1**

	Motivation	Highest education	Number of postgraduate qualifications	Number of professional qualifications	Research experience
Motivation	1	.391**	.501**	.428**	.859**
Highest education		1	.852**	.310**	.454**
Number of postgraduate qualifications			1	.278**	.401**
Number of professional qualifications				1	.406**
Research experience					1

Table 6 shows the correlation matrix of motivation and four other variables. From the table, motivation is positively correlated to lecturer's highest education attained ( $r = 0.391$ ,  $p < .05$ ), number of postgraduate qualifications attained ( $r = 0.501$ ,  $p < .05$ ), number of professional qualifications attained ( $r = 0.428$ ,  $p < .05$ ), and their research experience ( $r = 0.859$ ,  $p < .05$ ). These relationships suggest that the correlation between motivation and performance is moderated by highest education attained; number of postgraduate qualifications attained; number of professional qualifications attained; and research experience. Table 7 shows how these variables are related to performance.

**Table 7: Correlation Matrix 2**

	Performance	Highest education	Number of postgraduate qualifications	Number of professional qualifications	Research experience
Performance	1	.201**	.336**	.541**	.862**
Highest education		1	.852**	.310**	.454**
Number of postgraduate qualifications			1	.278**	.401**
Number of professional qualifications				1	.406**
Research experience					1

Table 7 shows the correlation matrix of performance and four other variables. From the table, performance is positively correlated to lecturer's highest education attained ( $r = 0.201$ ,  $p < .05$ ), number of postgraduate qualifications attained ( $r = 0.336$ ,  $p < .05$ ), number of professional qualifications attained ( $r = 0.541$ ,  $p < .05$ ), and their research experience ( $r = 0.862$ ,  $p < .05$ ). These relationships also suggest that the correlation between motivation and performance is moderated by highest education attained; number of postgraduate qualifications attained; number of professional qualifications attained; and research experience. Table 8 shows the extent to which each variable moderates this relationship.

**Table 8: Partial Correlations**

Variable pair	Covariate	Original r	Controlled r	Change in r	% Change	Controlled Sig.
Motivation & Performance	Highest education	0.892	0.654	0.238	27%	.000
	Number of postgraduate qualifications	0.892	0.621	0.271	30%	.000
	Number of professional qualifications	0.892	0.721	0.171	19%	.000
	Research experience	0.892	0.583	0.309	35%	.000

Table 8 shows partial correlation between motivation and performance. From the table, the original strength of the relationship between motivation and performance is 0.892. This value falls to 0.654 when highest education. Thus this covariate accounts for 27% of the effect in the original relationship. Number of postgraduate and professional qualifications respectively account for about 30% and 19% of the effect in this original relationship. The variable with the highest moderating influence is research experience, which makes 35% of moderating effect on the motivation-performance relationship. Hence, the effect of motivation on performance is contributed to by highest education attained; number of postgraduate qualifications attained; number of professional qualifications attained; and research experience.

## DISCUSSION

This study produces a positive correlation between motivation and performance in three dimensions. The first dimension expresses a significant positive effect of motivation on performance among faculty members of Ghanaian polytechnics, where motivation accounts for 79.5% of the variation in performance. In the second dimension, both motivation and performance are positively influenced by research experience and highest education obtained by faculty members. This dimension forms a basis of the moderating effect of research experience and highest educational qualification attained on the motivation-performance relationship.

Impressively, the first dimension of the evidence is supported by the literature in the context of various sectors. In this respect, most of the available empirical studies (e.g. Ali et al., 2012; Bonsu & Kusi, 2013; Mahmood & Mahmood, 2010; Salleh et al., 2011; Zameer et al., 2014;

etc.) on the subject indicate that motivation positively influences performance of employees in virtually all sectors captured in the literature. Sectors covered in the reviewed literature include telecommunication, public service, education and financial services. Of course, these sectors are the main constituents of industry; hence it could be concluded that this study's evidence applies to other sectors. Even so, it is worth mentioning that the study's result is supported in terms of motivation for employees (both teaching and non-teaching staff) in secondary and higher educational institutions in Ghana and in foreign countries (Afful-Broni, 2012; Rasheed et al., 2010; Osei, 2011; etc.).

Polytechnics constitute HEIs in Ghana. Hence, there is the need to identify the extent to which this study is supported by studies based on HEIs. In terms of both teaching and non-teaching staff, the studies of Afful-Broni (2012), Choong et al. (2011), and Kiruja & Mukuru (2013) provide evidence on the positive effect of motivation on performance. There is however no identifiable empirical evidence that points to the effect of motivation on performance among only teaching staff members of HEIs.

Evidence also lacking in the literature has to do with the moderating role of research experience and highest education attained. The omission of this evidence in the literature may not be considered a gap in terms of motivation for employees in public and private companies, but it becomes a serious one in terms of motivation for faculty members of HEIs. This is because employment and motivation in HEIs in Ghana and possibly other countries are driven by research experience and educational level. So though the positive effect of motivation on performance in this study is supported by the literature, academic debate on the moderating role of research experience and educational qualification must be strengthened.

## CONCLUSION AND RECOMMENDATION

There is a significant positive correlation between motivation and performance among teaching staff of Ghanaian polytechnics,  $r(408) = .892, p < .05$ . This means that the performance of teaching staff improves as their motivation increases. The simple linear regression analysis better expresses this relationship,  $F(1, 406) = 1577.088, p < .05$ . In this respect, motivation accounts for about 79.5% of the variation in performance, whereas the error term accounts for 20.5%. Also, motivation significantly predicts performance at 5% significance level, ( $t = 39.71, p = .000$ ).

In addition, motivation is positively correlated to lecturer's highest education attained ( $r = 0.391, p < .05$ ), number of postgraduate qualifications attained ( $r = 0.501, p < .05$ ), number of professional qualifications attained ( $r = 0.428, p < .05$ ), and their research experience ( $r = 0.859, p < .05$ ). Performance is also positively correlated to lecturer's highest education attained ( $r = 0.201, p < .05$ ), number of postgraduate qualifications attained ( $r = 0.336, p < .05$ ), number of professional qualifications attained ( $r = 0.541, p < .05$ ), and their research experience ( $r = 0.862, p < .05$ ).

The original strength of the relationship between motivation and performance is 0.892. This value falls to 0.654 when highest education is controlled for. Thus highest education attained by

teaching staff accounts for 27% of the effect in the original relationship. Number of postgraduate and professional qualifications respectively account for about 30% and 19% of the effect in this original relationship. The variable with the highest moderating influence is research experience, which makes 35% of moderating effect on the motivation-performance relationship. Hence, the effect of motivation on performance is contributed to by highest education attained; number of postgraduate qualifications attained; number of professional qualifications attained; and research experience.

In short, motivation is strongly positively correlated to performance among teaching staff of Ghanaian polytechnics. Performance is thus significantly predicted or influenced by motivation. Moreover, highest education attained and the research experience of teaching staff influence both motivation and performance. So teaching staff of polytechnics in Ghana can maximise their motivation and performance by improving their education and research experience.

Evidently, managements of polytechnics in Ghana must improve motivation for their teaching staff if their performance should be maximised. Moreover, the polytechnics ought to encourage their faculty members to embark on further education and to improve their research experience by engaging in formal academic publication. This can be done by the polytechnics by providing financial support to faculty members who would want to publish and embark on further education.

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