

# Explaining Self-Rated Performance of Nurse Educators at Nursing and Midwifery Training College in Asante Mampong, Ghana: The role of Leader-subordinate Relationship

Isaac Abunyuwah<sup>1</sup>, Rita Boakye<sup>2</sup> & Dominic Kwaku Danso Mensah<sup>2</sup>

<sup>1</sup> Akenten Appiah-Menka University of Skills Training and Entrepreneurial Development, Ghana

<sup>2</sup> University of Education, Winneba, Ghana

Correspondence: Isaac Abunyuwah, Akenten Appiah-Menka University of Skills Training and Entrepreneurial Development, Ghana. E-mail: iabunyuwah@aamusted.edu.gh

Received: March 4, 2024

Accepted: April 2, 2024

Online Published: June 8, 2024

doi:10.5539/ijbm.v19n4p92

URL: <https://doi.org/10.5539/ijbm.v19n4p92>

## Abstract

The role of human resource management in modern institutions and service provision cannot be overstated. The quality of leader-subordinate relationships in workplaces has several multiply effects, especially in performance and reputation, for service delivery institutions in particular. The study estimated the strength of leader-subordinate relationship and analysed its effect on nurse educators' performance in a multivariate framework in Asante Mampong Nursing and Midwifery Training College. Simple descriptive statistics tools were employed for evaluating the levels of work place relationships and performance, while the ordered logistic regression model was used in analyzing the partial effects of factors that explain performance in a multivariate framework. The study found that the leader-subordinate relationship scores were relatively low, averaging 2.73; within the range of 2.18 and 3.29 on a five-point Likert scale; while self-rated performance scores were relatively high ranging between 3.2 and 4.71, with an average score of 4.05. The results from the regression model revealed a positive and significant coefficient for the work place relationship variables. Other variables that appeared significant from the model include, sex, rank and motivation/commitment. The major challenges indicated by the tutors were inadequate supply of teaching and learning materials, inadequate incentives, large class sizes and heavy teaching loads. The study concludes that improvements in performance and productivity would require improved workplace relationships. Again, policy initiatives should be devised to address the problems affecting teaching and learning environment of the College.

**Keywords:** leader-subordinate relationship, performance, nurse educators, ordered logit

## 1. Introduction

Numerous studies demonstrate that an organization's ability to manage its human resources effectively is essential to its success because these factors ensure production efficiency and maximize employee productivity. In addition, successful implementation of strategies designed to remain competitive in the market and to sustain an organization's innovative drives hinge on how well human resources are managed (Werner, 2000; Witt et al., 2002; Kahya, 2007; Rothe et al., 2012). Findings from studies such as (Kotter, 1982; Hannaway, 1989; Carrol and Gillen, 2019) show that employee performance and quality of outputs delivery are significantly explained by leadership and job supervisory engagements. Thus, healthy workplace relationship contributes to organizational growth and development. According to Al-Anzi (2009) performance of staff is influenced by factors such as, job satisfaction, organizational culture, employee's personality traits, technology and tools availability and utilization, organizational structure, job stress, motivation and leadership style. As these factors, in one way or another, effectuate through human resource management in an organization, corporate management studies in particular have focused on employees' productivity maximization strategies, leadership styles and components or constructs of workplace relationships. Few studies have directly attempted to modelling Leader-subordinate relationship and performance comprehensively; and very limited in the area of professional educators or teaching institutions (Mensah, 2016; Tran et al., 2018).

In Ghana and many developing countries, contemporary managerial practices in the education sector have come under continuous criticism, amid considerable challenges, to improving performance of teaching and

administrative staff in meeting the growing multi-faceted market demands for skills and innovations. These among other factors have resulted in the introduction of teacher licensure examinations, educational reforms towards Competency-Based Training (CBT) and Technical and Vocation Educational and Training (TVET), and continuous professional development evaluations in the educational sector. The quality of human resource produced greatly depends on the quality of training received, and as a result, importance of and consistent call for educator performance assessment in Ghanaian schools. Teaching performance like others depends on teacher competence; supervision and interpersonal relationships; and overall work-place environment. While the role of work place relationship and its effects on performance cannot be overemphasized, there is a dearth of researches that comprehensively and rigorously model or explain employee performance and workplace relationships in the framework of productive work environment. Again, limited studies have been conducted on professional educators, where effects of workplace relationship have chain effects on the educators and their trainees' productivity and perception of workplace values and ethics. Previous studies in Ghana that addressed work place relationship in some way, focused on workers' right policy agenda and or in relation to sexual harassment (see Andoh, 2001; Britwum, 2007; Obeng-Fosu, 2007 as cited in Mensah, 2016). Mensah (2016) studied workplace relationships for teacher performance in Ekumfi District of Ghana, using regression analysis. This study focused on leader-subordinate (LS) relationship and its influence on nurse educators' self-rated performance. Using Asante Mampong Nursing and Midwifery Training College (AMNMTC), the study specifically assessed the nature of leader-subordinate relationship in the Nursing and Midwifery Training College in Asante Mampong, analysed nurse educators' levels of performance, and estimated and explained partial effect of leader-subordinate relationship on performance in multivariate framework.

## 2. Related Literature

Studies have shown that LS relationship is one major factor that has direct and indirect influence on employee productivity and performance (Allen, 1996; Arnold et al., 2007; Nielson & Daniels, 2012; Tran et al., 2018). For instance, Allen (1996) found that, in the health sector, workers who have strong relationships at work and are well-informed report greater levels of commitment and job satisfaction, while Douglas (2011) observed similar view in education. Thus, if an employee feels detached at work and cannot seem to fit into the organization's culture of power hierarchy or unable to blend with colleagues, a sense of dissatisfaction sets in, and in effect commitment and productivity levels are adversely affected. Similar observations are made by Cross (2019), noting that friendships and positive interactions are essential to communal health and growth as they create happier and more productive environment. Healthier working relationship enables easier resolution of workplace conflicts; leads to less resistance to implementation of new strategies and changes; and motivates innovative and creative efforts. Geue (2018), concludes that when there exist high quality relationships in the workplace, employees tend to inspire each other in performance. According to Harbour (2019), effective businesses do encourage the development and maintenance of positive relationships between managers and employees as well as amongst co-workers by creating strong mission statement and an upbeat team-based environment. With similar position, Ferris et al. (2009), stress that relationships are strengthened by clear definition of tasks and expected outcomes, maintaining open lines of communication and promptly addressing employee concerns and workplace behaviour. In Boakye (2023), it is observed that the speed, clarity and symmetry of communication and information flow with respect to instructions, feedback and evaluation or appraisal reporting define how individuals feel respected as both individuals and crucial contributors to the final service delivery of the institution. Clarke (2001) asserts that since positive relationships between employers and employees do not happen by accident, effective employee relationship management requires collaboration between management and employees. Healthy relationships thus result from strategies and activities that employee relations managers design and implement (Mayhew, 1985).

In assessing Leader-subordinate relationship, one critical indicator is how supervisors consider employees' goals and values. Generally, caring about employees' personal development and welfare at work is critical practice required of supervisors. Extensive and considerate supervisory support has been found to have a positive impact on employee's job satisfaction and organizational commitment. Other supportive practices required for healthy Leader-subordinate relationship include demonstration of trust and discussion of job and productivity issues. A study by Flaherty and Pappas (2000) found that trusted and supportive supervisor-subordinate relations lead to an employee's greater organizational commitment, job satisfaction and, in turn, productivity.

Leaders' support to their employees is also assessed through fair treatment. It is argued that repeated fair treatment, especially with workload allocations and promotion, would have a strong cumulative effect on employee's perception of support (Greenberg, 1990; Shore & Shore, 1995; El-Said & Shaaba, 2014). Another critical supervisory practice that affects Leader-subordinate relationship is the value attachment of employees'

contribution and the nature of acknowledgement they receive. Employees generally form perceptions about their valuation by the organization and develop responsive mechanisms and strategies to that effect, with guided steps in taking risky initiatives. According to Pham et al. (2010) Leader-subordinate relationship is supportive, when supervisors reinforce and provide their employees with, and transfer skills to them through training.

Moreover, supportive Leader-subordinate relationships are characterized by greater communication and role definition, as well as on the premise that the habits of the managers hold the power to create productive or counterproductive environments (Banker & Bhal, 2018). When managers and supervisors tend to be supportive, the environment becomes highly productive which affects individual and organizational performances and outcomes. Where there exists healthy Leader-subordinate relationship environment, easy access to technical knowledge, high level respect and feedback for example result in high sense of motivation and commitment (Graen & Uhl-Bien, 1995; Wayne et al., 1997). Thus, members of staff who enjoy high-quality LS relationships tend to contribute more than what is required from their formal duties, while low-quality LS relationships make members perform the more routine tasks, and would not undertake any challenging task beyond their formal duties and within their comfort zones (Bandura, 1986; Colbert, 2016).

A study carried out by Lather et al. (2015) which explored the effects of subordinate workers relation on turnovers of hospitality industries, concluded that negative relationship between supervisors and employees had adverse effect on turnovers. In Brunetto et al. (2013) and Morrison (2004) it was reported that work-place relationship was potential root cause of performance. Similar results were found by Azman et al. (2009) and Wanjala (2014) in their job performance studies.

The above empirical studies support the leader-member exchange theory, where a good quality; 'dyadic' relationship resulting from the leader's treatment of the subordinates tend to promote higher performance rating (Linden et al., 1993), stronger organizational commitment (Nystrom, 1990), and higher overall satisfaction (Scandura & Graen, 1984). Robins (2005) concludes that relationship between supervisors and subordinates is vital, because of its benefits in terms of organizational effectiveness, employees' career development and wellbeing. That is, healthy Leader-subordinate relationship can affect work outcomes positively. Again, when there exists a high-quality or positive Leader-subordinate relationship, effective resources and information exchanges between participants ensue. Conceptually, management and supervisor's behavior and actions such as mutual trust, professional assistance; respect, recognition and acknowledgement; communication; and fairness in performance evaluation are factors that can have significant influence on Leader-subordinate relationship. These create intrinsic rewards which help build confidence in employees and their ability to be successful in the workplace (Zeiger, 2021).

In the literature, factors that have been established to influence job performance include satisfactory working environment, experience, work place relationships, job satisfaction, commitment, leadership styles and socio-personal values (Allen, 1996; Gandi et al., 2011; Chou et al., 2012; Gutierrez et al., 2012; Bakiev, 2013; Adeoye, 2019; Efendi, 2020).

### **3. Materials and Methods**

We conceptualize, following previous studies, that performance of a worker/educator and quality of workplace relationship can be measured in factor structure as they encompass varied indicators.

In assessing quality of Leader-subordinate workplace relationship, four thematic areas with a total of nine construct indicator items were used. These are:

- i. Leadership or supervisors' acknowledgement of employees' competences and appreciations that are shown accordingly.
- ii. The level at which employees are involved or consulted in decision making, whether they are given the opportunity to provide inputs in decision making and the extent to which opinions and inputs in decision making are addressed.
- iii. Nature of communication and information flow. The existence and effectiveness of communication channels and how information feedback systems are set and implemented.
- iv. Leadership style and job culture: evaluates how satisfied educators are with respect to the job culture and leadership style in their department; and how satisfied with respect to career development practices and packages in the organization.

In evaluating nursing educators' self-rated performances, first, the following six questionnaire items were used:

- i. Completion of course work/syllabus

- ii. Execution of continuous assessment- assignments, quizzes & provision of feedback
- iii. Ability to assess/evaluate students' understanding at the end of each lesson.
- iv. Ability to deliver/communicate at the students' level of understanding.
- v. Satisfaction of students' performance of subjects in their terminal exams.
- vi. Average students' performance in the courses.

### 3.1 Research Design and Study Population

Based on the focus of the study, data generation instruments and data analysis methods selected for a cross-sectional surveys and case study designs within the quantitative approach of post-positivist philosophical paradigm were considered appropriate and sufficient (Cohen et al., 2007; Bryman, 2016; Abunyuwah, 2022). This guided our design, the overall plan for collecting and analysing the data (Polit & Beck, 2014). Time and resource constraints under Covid-19 pandemic contributed to the use of Asante Mampong Nursing and Midwifery Training College for the study. To address the main objective of the study, explanatory methods in quantitative approach were required to rigorously explain how LS relationship influences employee performance in a multivariate setting. A census was conducted for the teachers for this study.

The population of the study consisted of nurse educators in Mampong Nursing and Midwifery Training College in Ashanti Region. The data required and inference sought in respect of workplace relationship variables mainly concerned nursing educators and management; while performance of teachers was assessed from self-rated teachers' performance scores. The target population was thirty-three staff/educators. However, due to prolonged strike action and the fact that some of the tutors were pursuing further studies, 27 tutors were reached. Thus, by rule of thumb using sample size 50-100% for relatively smaller population is statistically appropriate (Mugenda & Mugenda, 1999).

### 3.2 Data Collection

The data for the study was obtained from primary sources. Primary data was sourced from the tutors of the College. The study's primary data was obtained by contacting respondents using a self – administered structured questionnaire. This instrument was chosen because of its confidentiality and anonymity which helps respondents to express their views freely about questionnaire items. Internal consistency, which is the consistency of people's responses across the items on a multiple-item measure was assessed. The most common measure of internal consistency, Cronbach's  $\alpha$  (alpha), was used. Content validity is the extent to which a measure covers the construct of interest. In our case items used to assess our conceptual definition of major constructs were carefully evaluated by experts and how similar constructs were approached from the literature.

### 3.3 Measurement and definition of variables

Table 1 gives a summary of major variables selected and used in the study. In addition, the description and measurement scales used are also indicated in the second and last columns of the table respectively. Performance, which is the dependent variable in this study, was measured as ordinal, defined in five levels, namely excellent; very good; good; average and below average or poor.

Table 1. Description of variables

Variables	Description	Measurement
Performance	Self-rated job execution	Excellent=5; Very good=4; Good=3; average=2; below average=1
Leader-sub	Leader-subordinate relationship	Excellent=5; Very Good=4; Good=3 Normal=2; Poor=1
Co-worker	How colleagues relate to each other	Excellent=5; Very Good=4; Good=3 Normal=2; Poor=1
Age	Age of respondents in years	Years
Motivation	Level of motivation / commitment	Excellent=5; Very Good=4; Good=3 Normal=2; Poor=1
Education	Level of Education for tutors	Terminal degree=3; qualifying/in progress =2; minimum=1
Experience	Number of years in the job	Years
Marry	Married or partnered	Dummy: Married/Partnered=1; otherwise=0
Sex	Sex of respondents	Dummy: Male = 1, Female = 0
Rank	Rank of the tutor	Ordered: chief = 1, principal=2, senior=3, tutor = 4
Teachload	Overload of courses	Dummy: Yes=1; No=0

### 3.4 Methods for Data Analysis

The data collected was analysed primarily using quantitative methods. The main software packages used for the analysis were the Statistical Package for Social Sciences (SPSS) and R statistical software. The statistical tools used in the study were selected based on the study objective, measurement scales and the number of variables required in addressing the objective under consideration. In the first stage, descriptive statistics, such as means, median and mode for measures of central tendency; and range, standard deviation and variance for measures of dispersions were used to present the general characteristics of the data. Results were presented, in tables. In estimating and explaining the association between workplace relationship and its influence on the performance of nurse educators, factor analysis and ordinal regression model were applied. The choice for the later was based on the fact that the performance variable was measured on ordinal scale, thus, excellent, very good, good, average and below average performance levels. Kendal’s measure of concordance was used to analyse the challenges/constraints facing nursing educators.

### 3.5 Empirical Model Specification.

To explain an educators’ level of self-rated performance comprehensively, socio-demographic features of educators; teaching experiences and knowledge/qualification of the educators; physical working environment; and workplace relationships, accessed through both co-workers and leader-subordinate relationships were considered. Based on the general modelling framework of stated or observed categorical dependent variables and choice models, the level of nurse educators stated levels of performance are defined as decision makers’ state of action or levels of engagement or feeling at which outcomes are rated. Consequently, five levels of performance states were defined; that is to match tutors who self-rated excellent; very satisfied/very good (VP), satisfied/good (GP), average/normal (AP) and not satisfied/below average (BP) in their performances. In this respect, the dependent variable is measured as an ordinal variable with five categories. To explain ordinal categorical dependent variable such as one defined in this study, an ordered logistic/probit regression model ensues, given that the fundamental assumption, the proportional odds or the parallelism assumption holds (Long & Freese, 2014; Williams, 2006; 2016). Where the proportional odds assumption is violated the ordered generalised framework models are used. Following Yee (2008; 2019) and Abunyuwah, (2020), the vector generalized linear/additive models (VGLM/VGAM) framework were used, as they are able to flexibly accommodate the classical assumptions in the ordinary least squares regression framework, utilizing the vector generalized linear or additive structure, as specified in equations (1)-(4) (adopted from Abunyuwah, 2020 and Yee, 2019). Thus, given our categorical response variable Y of M-dimensional vector, the distribution of these Y outcomes are modelled conditional on the selected X explanatory variables in the form of equation (1):

$$f(\mathbf{y} | \mathbf{x}; \mathbf{B}) = h(\mathbf{y}, \eta_1, \dots, \eta_M) \tag{1}$$

Where  $h(\cdot)$  is defined for some known function;  $\mathbf{B} = (B_1 B_2 \dots B_M)$  is a  $(p \times M)$  matrix of unknown regression coefficients and  $\eta_j$  is the  $j^{th}$  linear predictor specified as:

$$\eta_j = \eta_j(\mathbf{x}) = \beta_j^T \mathbf{x} = \sum_{k=1}^p \beta_{(j)k} x_k; \quad j = 1, \dots, M \tag{2}$$

In this case  $\mathbf{X} = (x_1, \dots, x_p)^T$  with  $x_1 = 1$  for specifications that include intercept. It follows from equation (2) that all the parameters may be potentially modelled as functions of  $\mathbf{X}$ . As noted in Yee (2019), the VGLMs are like GLMs but allow for multiple linear predictors, and they encompass models outside the small confines of the exponential family. Extending the VGLMs of (2) in VGAMs and to accommodate the parallelism assumption, equations (3) and (4) apply. In equation (4) the idea of ‘constraints-on-the functions’ are flexibly imposed which is very important, especially in the analysis of categorical data.

$$\eta_j(\mathbf{x}) = \beta_{(j)1} + \sum_{k=2}^p f_{(j)k}(x_k); \quad j = 1, \dots, M \tag{3}$$

$$\eta(\mathbf{x}) = \beta_1 + \sum_{k=2}^p f_k(x_k) = H_1 \beta_1^* + \sum_{k=2}^p H_k f_k^*(x_k); \tag{4}$$

Where  $H_1, H_2, \dots, H_p$  are known full-column rank constraint matrices,  $f_k^*$  is a vector containing a possibly reduced set of component functions and  $\beta_1^*$  is a vector of unknown intercepts. Where no constraints are

imposed at all,  $H_1 = H_2 = \dots = H_p = \mathbf{I}_M$  and  $\beta_1^* = \beta_1$ . The  $\mathbf{X}$  matrix in this framework ( $\mathbf{X}_{VLM}$ ) is thus constructed from  $\mathbf{X}$  and  $\mathbf{H}_k$  using Kronecker product operations (see Yee, 2008 for examples). The flexibility of the VGLM/VGAM framework above allows many functional links to be defined, given the nature of the data. In our analysis, where the dependent variable is ordinal, the ordered logit/probit framework was required. Cases where the proportional odds assumption is violated for some regressors, the partial ordered models apply (Peterson and Harrell 1990). The VGAM fits such models via constraint matrices specification as presented in equation (4). Defining performance as the dependent variable, eight explanatory variables were selected for the multiple regression model where partial effects of each individual regressor was estimated.

## 4. Results and Discussions

### 4.1 Demographic and Professional Characteristics

Results on demographic and professional features of the tutors covered sex, marital status, age in years, teaching experience, qualification and rank. It was observed that majority of the tutors were men, representing (58.8%) with female representation of 41.2%. This compares with Mensah (2016) and Berberoglu and Secim (2015), where in the former, males were dominant in his sample, constituting 57% ( $n = 77$ ) and 43% ( $n = 59$ ) being females. In the latter much more dominancy was reported, that is 78% for males. On marital status, over 80 percent were married, whilst twenty percent (20%) were singles. This result also compares with Berberoglu and Secim (2015) where 78.9% of their respondents were married. The respondents' ages ranged between thirty and fifty years, with mean age of 40.71 and standard deviation of 6.36 years. Similar to other studies and Berberoglu and Secim (2015) in particular, the tutors were youthful, as none was beyond fifty years, and with an average age of 40 years.

Teaching experiences were grouped into four categories, 1-5, 6-10, 10-15, and 15 years and above. Teaching experiences among the respondents ranged from one to fifteen years, and none of the tutors had served more than fifteen years. The results indicate that 35.3% of the respondents have served in the college for over ten years, while 41.2% and 23.5% of the tutors have teaching experiences of 1-5 years and 6-10 years respectively. The results further show that none of the teachers had completed a terminal degree (doctoral degree). Majority, 70.6% hold first degree, whilst the remaining 29.4% have Master's degree. This implies that most of the tutors need to upgrade as required by the Ghana Tertiary Education Commission (GTEC). In terms of their status in ranks, as expected, tutors, senior, principal and chief tutors respectively form 41.2%, 29.4%, 17.6% and 11.8% of the respondents.

### 4.2 Assessment of Workplace Relationship

The assessment of Leader-subordinate relationship was carried out with SPSS software in estimating descriptive statistics: namely, the mean and range/standard deviations; and the reliability scores. The Cronbach's alpha and corrected item-total correlation values for the two variables defined under workplace relationship, that is, Leader-subordinate and Co-worker relationships were all greater than 0.75 and 0.3 respectively.

In assessing Leader-subordinate relationship, ordinal scale measure was used; first, in a 5-point Likert scale using nine questionnaire items with Cronbach alpha ( $\alpha = .881$ ) and second, as a regressor defined in excellent, very good, good, average/normal and poor. The categories were reduced to 3, as some categories had to be collapsed (poor/average; and excellent/very good), due to limited number of observations (less than five) in those categories. Similarly, Co-worker relationship was also defined as an ordinal variable and the number of categories reduced to three, following same argument raised for Leader-subordinate relationship.

Results for LS workplace relationship, based on the four constructs defined above (section 3.0) are presented in Table 2 for minimum, mean, maximum and standard deviation scores, for each of the nine items. The results indicate that a relatively lower scores were recorded for communication/information, leadership style and career/personnel development culture in the college, all rated below 3 on a five-point Likert scale. Similar trend was reported in Mensah (2016) in relative ranking of the themes, where in his study acknowledgement and consultations (level of involvement in decision making) were also ranked slightly higher over others (mean = 4.45, std. dev. = 0.65) and (mean = 4.43, std. dev. = 0.69) respectively. The results however indicate that nursing educators overall rating of the quality of Leader-subordinate relationship was low (mean=2.73), compared to similar studies. For instance, average scores of 4.35 and 3.58 were reported in Mensah (2016) for a study in Ghana and Tran et al. (2018) in Vietnam respectively; where the least rated theme in their respective studies, scored (mean = 4.26, std. dev. = 0.73) and (mean=3.52, std. dev.=0.81).

Table 2. Descriptive statistics of Leader-subordinate relationship

Constructs	Range	Minimum	Maximum	Mean	Standard Deviation
<b>Acknowledgment</b>					
Competences	3	1	4	3.29	.985
Output	3	1	4	3.12	.993
<b>Decision Making</b>					
Opportunity/invited views	3	1	4	3.12	1.166
Opinions/views considered	3	1	4	2.88	1.111
<b>Communication/Information</b>					
Well-defined Channel of communication	4	1	5	2.76	1.200
Effective Information flow	3	1	4	2.18	.951
Effective Feedback/responses	2	1	3	2.24	.752
Leadership style	4	1	5	2.41	1.228
Career development programs	3	1	4	2.59	1.228
<b>Leader-Subordinate Relation</b>	<b>4</b>	<b>1</b>	<b>5</b>	<b>2.73</b>	<b>1.171</b>

#### 4.3 Assessment of Nurse Educator's Performance

Again, in assessing tutors self-rated performance, descriptive statistics, namely; minimum, mean, maximum and standard deviation scores, for each item as presented in Table 3. were used. The results indicate that on the average the educators rated all the items relatively higher, with the exception of those that related to students' performance in the courses. From the table, teaching delivery items were averagely rated high. Completion of syllabus; ability to execute all continuous assessment tasks and to provide feedback; and ability to assess/evaluate students' understanding at the end of each lesson recorded mean scores of 4.71, 4.59 and 4.35 respectively, corresponding to 70-79 percentile category.

Table 3: Descriptive statistics of educators Self-rated Performance

Items	Range	Minimum	Maximum	Mean	Standard Deviation
Completion of syllabus	1	4	5	4.71	0.470
Execute assessment/feedback	1	4	5	4.59	0.507
Evaluate lessons	3	2	5	4.35	0.786
Students understand lesson	2	3	5	3.55	0.565
Perform at terminal exams	3	2	5	3.94	0.966
Performance at internal exams	3	2	5	3.20	1.023
<b>Self-rated Performance</b>	<b>2.0</b>	<b>3.0</b>	<b>5.0</b>	<b>4.057</b>	<b>0.719</b>

Source: Authors' estimation.

The remaining three items received mean scores of 3.55, 3.94 and 3.20 respectively, falling in the range of 60-69 percentile equivalent. When the results observed from Table 3 are compared to the ratings observed under LS workplace relation items of Table 2, these here are relatively higher. Moreover, the results compare with many previous studies on performance evaluation. For instance, the current results compare with Tran et al. (2018) and Platis et al. (2015) in studies conducted in Vietnam and Athens respectively, where self-rated job performance average rating scores ranged between 3.88–4.02 (std.dev=0.579–0.661) and 5.37-6.0 (std.dev=1.18-0.99) on a five-point and seven-point scale ratings respectively in their studies conducted within the health sector.

#### 4.4 Analysis of the Effects of Workplace Relationship and Other Factors on Nurse Educator's Performance

In this section, the effect of workplace relationship on nurse educators' performance is assessed relative to the

effects of other factors in regression framework. Since, the dependent variable, “performance” was measured as an ordinal categorical variable, the analysis in a multivariate framework requires that ordinal regression model is used. However, the popular ordered logit/probit models work under the assumption of parallelism or proportional odds. When the assumption is violated, the model becomes incongruent (Brant, 1990; Bratsberg, 1995; Williams, 2006). As a result, Brant test for the parallel lines assumption was conducted via *brant* package in R statistical software. Results of the test, presented in Table 4 did not indicate any violation of the proportional odds assumption.

Table 4. Brant test for proportional odds assumption

	Chi-square	DF	PROBABILITY
Omnibus	15.47	13	0.28
Leader_Subord Rela.L	1.93	1	0.16
Leader_Subord Rela.Q	1.39	1	0.24
Co_Worker Relation.L	0.50	1	0.48
Co_Worker Relation.q	1.20	1	0.27
Sex	0.10	1	0.76
Age	0.34	1	0.56
Experience	3.61	1	0.06
Rank.L	0.61	1	0.44
Rank.Q	0.01	1	0.94
Rank. C	1.02	1	0.31
Qualification	0.11	1	0.76
Commit_Motivation. L	2.30	1	0.13
Commit_Motivation. Q	0.32	1	0.57

Source. Authors' estimation.

The results of the Brant test in table 4 show that the proportional odds assumption holds for the regression model as a whole, indicated by the p-value of 0.28 for the Omnibus, and but for experience, all other regressors appeared insignificant even at 10% level of significance. This allowed us to use the ordered regression model, implemented in the VGLM/VGAM framework via the logit link function in R.

Results of the ordered regression model are presented in Table 5, where column one contains variables used to explain the variations in degree of self-rated performances of the tutors. In columns two, three, four and five, the estimated coefficients, standard errors, z-scores and p-values are presented respectively. The last column of table 4 displays the odds ratio, which is used to interpret the intensity of effects of the explanatory variables on the performance ratings. To overcome identification and inference problems as a result of the smaller sample size, the model was evaluated in a bootstrap framework, using 250 resampling with replacement in 1000 bootstrap replications. Again, and as explained in above, the categories for the response variable, the two workplace relation variables, and the commitment variable were collapsed into three.



Table 5. Results from Ordered Logistic Regression Model

Variables	Coefficients	Std. Error	z value	Pr(> z )	Odds Ratio
(Intercept):1	2.099391	0.513682	4.087	0.0000481 ***	
(Intercept):2	0.447364	0.509099	0.879	0.3795	
Leader_Subord Rela.1	0.049648	0.104254	0.476	0.6339	1.0615643
Leader_Subord Rela.2	0.210937	0.103327	2.041	0.0412 **	1.2498249
Co_Worker Relation.1	0.183045	0.109652	1.678	0.0810 *	1.1992416
Co_Worker Relation.2	0.158526	0.100360	1.580	0.1142	1.1717827
Sex	0.221985	0.100619	2.206	0.0252**	1.2528793
Age	-0.010333	0.010380	-0.996	0.3195	0.9897198
Experience	0.001968	0.014503	0.136	0.8921	1.0030343
Rank.1	0.031332	0.164719	0.190	0.8491	1.0691535
Rank.2	0.299776	0.150805	1.988	0.0468 **	1.3509839
Rank.3	0.175957	0.132517	1.328	0.1842	1.2038544
Qualification	0.139706	0.127917	1.092	0.2748	1.1696138
Commit_Motivation.1	0.198704	0.126240	1.574	0.1155	1.2207927
Commit_Motivation.2	0.206367	0.104437	1.976	0.0472**	1.2422620

Note. \*, \*\* and \*\*\* correspond to 10%, 5% and 1% significant levels respectively.

In table 5, a total of 14 parameters (excluding the constants) were estimated for the eight variables. Thus, all the ordinal variables entered the model in levels to capture their implied directional effects. The results of the ordered regression model are interpreted by considering the current category and the least coded categories as the base groups, when viewed in terms of binary logit or probit model (Williams, 2016; Abunyuwah, 2020).

In discussing results from table 5, three issues are of interpretational interest; the statistical significance; the signs of the coefficients; and the intensity of the effects or the size of the marginal effects. Five of the eight variables and of their correspondent coefficients, namely; Lead\_sub Rela., Co-worker Rela. Q, Sex, Rank and Commit Motivation appeared statistically significant, at least, under 10% level of significance while three variables, Age, Experience and Qualification were insignificant in explaining self-rated performance.

Although statistically insignificant, Experience and Qualification had positive coefficients implying, as expected, that higher levels or attainments would result in higher performance levels. The Age variable, however had negative coefficient, indicating reverse relationship between aging and self-rated performance at the workplace.

The workplace relationship variables have positive coefficients, meaning that tutors who rated their workplace relationship as “normal” or “good/very good” are 1.25 and 1.20 times more likely to fall in “above average/good” or “very good/excellent” performance categories than those who indicated or fell under “poor” workplace relationship category for Lead\_sub Rela and Co\_worker Rela. respectively. The variables also entered into the model at levels to reflect its ordinal quality in terms of direction and intensity, even though the other level coefficients did not appear significant. As noted earlier, these results are consistent with theory and many previous studies (see Tran et al., 2018; Sepdiningtyas et al., 2017; Mensah, 2016; Brady et al., 2010).

For the remaining three variables that appeared significant, all have positive coefficient values, implying that tutors who for example, rated their levels of commitment/motivation as “normal” or “good/very good” are 1.2423 times more likely to fall in “above average/good” or “very good/excellent” performance categories than those who indicated or fell under “poorly motivated/low commitment level” category. This finding, as expected supports conclusions drawn in Berberoglu and Secim (2015), who arrived at similar findings in a case study of a private hospital in Northern Cyprus (see also Gong et al. 2009, Schrock et al., 2016 for comprehensive discussions) while it contradicts findings in Angle and Lawson (1994) and Mathieu and Zajac (1990). Rank and Sex also had a relatively moderate and significant effect on self-rated performance levels. “Chief”, “Principal” and “Senior” tutors are 1.35 more likely to perform at an “above average/good” or “very good/excellent” levels than “Tutors”. This result is not unexpected as promotion intrinsically matches critical components of an organization’s performance requirements. Results from the ordered logistic model indicate that males are about 1.25 times likely to belong to “above average/good” or “very good/excellent” self-rated performance categories than females.

#### 4.5 Analysis of Constraints Affecting Teaching and Learning

In analysing the constraints affecting teaching and learning at the College, the Kendall's measure of concordance was used to assess the agreement in the ranking order of the major constraints affecting teaching and learning in the school. Four major constraints were identified, namely; Inadequate supply of TLMs, Inadequate incentives, Large class sizes and Heavy teaching load as presented in Table 6.

Table 6: Ranking order of constraints tutors encounter at workplace

Constraints	Mean	Rank Position
Inadequate supply of TLMs	1.55	1 <sup>st</sup>
Lack/Inadequate incentives	1.55	1 <sup>st</sup>
Large class sizes	1.52	3 <sup>rd</sup>
Heavy teaching workload	1.51	4 <sup>th</sup>

Notes. No. of observation = 27, Kendall's W = 0.6835, P – value = 0.001.

The output from the Kendall's analysis provided Kendall's W coefficient of concordance of 0.6835 and probability value of 0.001 from table 6. The results mean that 68.35 percent of the total respondents (n = 27) agreed on the ranking order that Inadequate supply of TLMs, Inadequate incentives, Large class sizes and Heavy teaching load in order of ranking are the most critical constraints affecting effective teaching and learning.

### 5. Conclusion

The importance of workplace relationship to performance of nursing educators have been discussed from both theory and empirical perspectives. The need for strengthening workplace relationship for effective output delivery and overall sustainable staff performance underpinned the current study using Asante Mampong Midwifery and Nursing Training College. This study specifically aimed at measuring and explaining the levels of workplace relationships and self-rated job performance levels. The need for an improved workplace relationship to enhancing job performance have been supported by the study. LS relationship is relatively rated low; it is therefore, recommended that management should improve the decision making and information/communication flow processes by increasing the levels of staff consultations and involvement. Since Sex, Rank and commit motivation and the two workplace relationship variables appeared significant in explaining performance, it is recommended that strategies that improve commitment and motivation, and staff promotion should be intensified. Moreover, women should be assisted to improve their performance. Even though, resources are scarce in resolving problems in the Ghanaian educational institutions, management should strategize to resolve the challenges faced by the tutors.

#### Author Contributions

**RB** and **DKDM** contributed by conceiving and designing the research. **RB** wrote the first draft of the manuscript under the supervision of **DKDM** and **IA**. **IA** analysed the data and provided critical review on the structure of econometric model and analytic guidelines used. All the authors proofread the manuscript and approved the final version of the manuscript.

#### Informed consent

Obtained.

#### Ethics approval

The Publication Ethics Committee of the Canadian Center of Science and Education.

The journal and publisher adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

#### Provenance and peer review

Not commissioned; externally double-blind peer reviewed.

#### Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

#### Data sharing statement

No additional data are available.

### Open access

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>).

### Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

### References

- Abunyuwah, I. (2020). ~~Abunyuwah, I. (2020).~~ Partial Proportional Odds Analysis of Consumer Packaged Food Safety Precautionary Actions in Nsuta-Mampong, Ghana. *Journal of Economics & Devt. Studies*, 8(3), 44-53. <https://doi.org/10.15640/jeds.v8n3a4>
- Abunyuwah, I. (2022). Quantitative Research Techniques. International Research Seminar Series-2022. Org. by School of Graduate Studies, AAMUSTED, May 10 - May 12, 2022.
- Adeoye, A. O. (2019). Compensation Management and Employees' motivation in the Insurance Sector: Evidence from Nigeria. *Facta Universitatis, Series: Economics and Organization*, 16(1), 31-47. <https://doi.org/10.22190/FUEO1901031A>
- Al-Anzi, N. M. (2009). *Workplace environment and its impact on employee performance*. MBA thesis, submitted to Open University of Malaysia.
- Allen, N., & Meyer, J. (1996). Affective, Continuance, and Normative Commitment to The Organization: An Examination of Construct Validity. *J. Vocat. Behav.*, 49, 252-276. <https://doi.org/10.1006/JVBE.1996.0043>
- Allen, M. W. (1996). The Relationship between Communication, Affect, Job Alternatives, and Voluntary Turnover Intentions. *South Commun. J.*, 61. <https://doi.org/10.1080/10417949609373015>
- Angle, H. L., & Lawson, M. B. (1994). Organizational commitment and employees' performance ratings: Both type of commitment and type of performance count. *Psychological reports*, 75(3), 1539-1551.
- Arnold, K. A., Turner, N., Barlind, J.; Kelloway, E. K., McKee, M. C. (2007). Transformational Leadership and Psychological Well-Being: The Mediating Role of Meaningful Work. *J. Occup. Health Psychol.*, 12, 193-203. <https://doi.org/10.1037/1076-8998.12.3.193>
- Azman, I., Ching-Sieng, L. L., Ajis, M. N., Dollah, N. F., & Boerhannoeddin, A. (2009). Relationship between supervisor's role and job performance in the workplace training program. *Analele Stiintifice ale Universitatii "Alexandru Ioan Cuza" din Iasi - Stiinta Economice*, 56, 237-251
- Bakiev, E. (2013). The Influence of Interpersonal Trust and Organizational Commitment on Perceived Organizational Performance. *Journal of Applied Economics and Business Research*, 3, 166-180.
- Bandura, A. (1986). Social Foundations of Thought and Action: A Social-Cognitive View. *Acad. Manag. Rev.*, 11, 656-665
- Banker, D. V., & Bhal, K. T. (2018). Understanding Compassion from Practicing Managers' Perspective: Vicious and Virtuous Forces in Business Organizations *Global Business Review*, 21(1). <https://doi.org/10.1177/0972150917749279>
- Berberoglu, A., & Sacim, H. (2015). Organizational Commitment and Perceived Organizational Performance Among Health Care Worker: Empirical Evidence from a Private Hospital in Northern Cyprus. *J. Economics and Behavioral Studies*, 7(1), 64-71.
- Boakye, R. (2023). *Investigating Workplace Relationship and Its Influence on the Performance of Nurse Educators: A Study of Nursing and Midwifery Training College, Asante Mampong*. MEd Thesis submitted to the Department of Educational Administration and Management, University of Education, Winneba-Ghana.
- Brady, K. P., Holcomb, L. B., & Smith, B. V. (2010). The use of alternative social networking sites in higher educational settings: A case study of the e-learning benefits of Ning in education. *Journal of interactive Online Learning*, 9(2).
- Brant, R. (1990). Assessing proportionality in the proportional odds model for ordinal logistic regression. *Biometrics*, 1171-1178.

- Bratsberg, B. (1995). The incidence of non-return among foreign students in the United States. *Economics of Education Review*, 14(4), 373-384.
- Brunetto, Y., & Wharton, R. F. (2006). The Importance of Effective Organisational Relationships for Nurses: A Social Capital Perspective. *Int. J. Hum. Resour. Dev. Manag.*, 6, 232-247.
- Bryman, A. (2016). *Social Research Methods*. New York: Oxford University Press.
- Carroll, S. J., & Gillen, D. J. (2019). Are the classical management functions useful in describing managerial work? In *Managerial Work* (pp. 291-304). Routledge.
- Chou, H. Y., Hecker, R. O. B., & Martin, A. (2012). Predicting nurses' well-being from job demands and resources: A cross-sectional study of emotional labour. *Journal of nursing management*, 20(4), 502-511.
- Clarke, T. (2001). Balancing the triple bottom line: Financial, social and environmental performance. *Journal of general management*, 26(4), 16-27.
- Cohen, L., Manion, L., & Morrison, K. (2007). *Paradigms of Research Methods in Education* (7th ed.). Routledge.
- Colbert, A. E., Bono, J. E., & Puranova, R. K. (2016). Flourishing via workplace relationships: moving beyond instrumental support. *Academy of Management Journal*, 59(4), 1199-1223.
- Cross, R. (2019). To be happier at work invest more in your relationships. *Havard Business Review*. Retrieved from <https://hbr.org/2019/07/>
- Douglas, A. S. (2011). The different learning opportunities afforded student teachers in four secondary school subject departments in an initial teacher education school-university partnership. *Journal of Education for Teaching*, 37(1), 93-106.
- Efendi, R., Rifa'i, M. N., Bahrin, K., Milla, H., & Suharmi, S. (2020). The Mediation of Work Motivation on the Effects of Work Discipline and Compensation on Performance Batik MSMEs Employees in Yogyakarta City, Indonesia. *International Journal of Multicultural and Multireligious Understanding*, 7(1), 689-703.
- El-said, O., & Shaaban, M. A. (2016). Impacts of Workplace Relationships on Employees' Perceptions of Productive Work Environment in hotels. EuroCHRIE Dubai Conference Proceedings, The Emirates Academy of Hospitality Management, Dubai, United Arab Emirates, Oct. 2014.
- Ferris, G. R., Rogers, L. M., Blass, F. R., & Hochwarter, W. A. (2009). Interaction of Job/Limiting Pain and Political Skill on Job Satisfaction and Organizational Citizenship. *Behavior. J. Manag. Psychol.*, 24.
- Flaherty, E., & Pappas, M. (2000). The Role of Trust in Salesperson-Sales Manager Relationships. *Journal of Personal Selling & Sales Management*, 20(4), 271-279. <https://doi.org/10.1016/j.jbusres.2011.10.026>
- Gandi, J. C., Wai, P. S., Karick, H., & Dagona, Z. K. (2011). The role of stress and level of burnout in job performance among nurses. *Mental health in family medicine*, 8(3), 181.
- Geue, P. E. (2018). Positive practices in the workplace: Impact on team climate, work engagement, and task performance. *The Journal of Applied Behavioral Science*, 54(3), 272-301. <https://doi.org/10.1177/0021886318773459>
- Gong, Y., Huang, J. C., & Farh, J. L. (2009). Employee learning orientation, transformational leadership, and employee creativity: The mediating role of employee creative self-efficacy. *Academy of management Journal*, 52(4), 765-778. <https://doi.org/10.1108/DLO.2010.08124BAD.003>
- Graen, G. B., & Uhl-Bien, M. (1995). Relationship-Based Approach to Leadership: Development of Leader-Member Exchange (LMX) Theory of Leadership over 25 Years: Applying a Multi-Level Multi-Domain Perspective. *Leadersh. Q.*, 6, 219-247.
- Gutierrez, A. P., Candela, L. L., & Carver, L. (2012). The structural relationships between organizational commitment, global job satisfaction, developmental experiences, work values, organizational support, and person-organization fit among nursing faculty. *Journal of Advanced Nursing*, 68(7), 1601-1614.
- Hannaway, J. (1989). *Managers managing: The workings of an administrative system*. New York: Oxford University Press.
- Harbour, S. (2019). How to Establish & Maintain Good Relationships in the Workplace. *CHRON*. Retrieved from <https://smallbusiness.chron.com/improved-work-relationships-affect-erformance-39051.html>
- Kotter, J. P. (1982). *The general managers*. New York: Free Press.

- Lather, A. S., Jain, S. V. K., & Jain, S. (2016). Impact of Ten Cs leadership practices on employee engagement with respect to socio demographic variables: a study of hotel and tourism industry in National Capital Region, Delhi, India. *International Journal of Indian Culture and Business Management*, 12(4), 425-445.
- Liden, R. C., Graen, G. (1980). Generalizability of The Vertical Dyad Linkage Model of Leadership. *Acad. Manag. J.*, 23, 451-465.
- Long, J. S., & Freese, J. (2014). *Regression models for categorical dependent variables using Stata* (3rd ed.). College Station, TX: Stata Press.
- Mathieu, J. E., & Zajac, D. M. (1990). A review and meta-analysis of the antecedents, correlates, and consequences of organizational commitment. *Psychological Bulletin*, 108(2), 171.
- Mayhew, K. (1985). Reforming the labour market. *Oxford Review of Economic Policy*, 1(2), 60-79.
- Mensah, D. K. D. (2016). Classroom teachers' perceptions of workplace relationship practices in rural Ghanaian basic schools. *Global Journal of Political Science and Administration*, 4(5), 22-32.
- Morrison, R. (2004). Informal relationships in the workplace: Associations with job satisfaction, organizational commitment & turnover intentions. *New Zealand Journal of Psychology*, 33, 114-128
- Mugenda, O.M. and Mugenda, A.G. (1999). *Research Methods: Quantitative and Qualitative Approaches*. Acts Press, Nairobi.
- Nielsen, K., & Daniels, K. (2012). Enhancing Team Leaders' Well-Being States and Challenge Experiences during Organizational Change: A Randomized, Controlled Study. *Hum. Relat.*, 65.
- Nystrom, P. C. (1990). Vertical Exchanges and Organizational Commitments of American Business Managers. *Gr. Organ. Manag.*, 15.
- Peterson, B. & Harrell, F. E. (1990). Partial Proportional Odds Models for Ordinal Response Variables. *Applied Statistics*, 39(2), 205-217.
- Pham, N. T. P., Segers, M. S. R., & Gijsselaers, W. H. (2010). Understanding transfer of training effects from a motivational perspective: a test of MBA programs. *Business Leadership Review*, 7(3), 1-25.
- Platis, C., Reklitis, P., & Zimeras, S. (2015). Relation between Job Satisfaction and Job Performance in Healthcare Services. *Procedia Soc. Behav. Sci.*, 175, 480-487.
- Polit, D. F., & Beck, C. T. (2014). *Essentials of nursing research: appraising evidence for nursing practice* (8th ed.). Philadelphia, Wolters Kluwer Health /Lippincott Williams & Wilkins.
- Robbins, S. P. (2005). *Essentials of Organizational Behavior* (8th ed.). Prentice Hall, Upper Saddle River.
- Rothe, P., Lindholm, A., Hyvönen, A., & Nenonen, S. (2012). Work environment preferences, does age make a difference? *Facilities Journal*, 30(1/2), 78-95.
- Scandura, T. A., Graen, G. B. (1984). Moderating Effects of Initial Leader-Member Exchange Status on The Effects of a Leadership Intervention. *J. Appl. Psychol.*, 69, 428-436.
- Sepdiningtyas, R., & Santoso, C. B. (2017). The influence of leader-member exchange on individual performance: the roles of work engagement as a mediating variable and co-workers support as a moderating variable. *Review of Integrative Business and Economics Research*, 6(4), 285
- Shanock, L. R., & Eisenberger, R. (2006). When supervisors feel supported: relationships with subordinates' perceived supervisor support, perceived organizational support, and performance. *Journal of Applied psychology*, 91(3), 689. <https://doi.org/10.1037/0021-9010.91.3.689>
- Tran, K. T., Nguyen, P. C., Dang, T. T. U., & Ton, T. N. B. (2018). The Impacts of the High-Quality Workplace Relationships on Job Performance: A Perspective on Staff Nurses in Vietnam. *Bev. Sci.*, 109(8), 1-24.
- Wanjala, M. (2014). *The influence of leadership style on employees' job performance in the hospitality industry: case study of safari park hotel* (Doctoral dissertation, United States International University-Africa).
- Wayne, S. J., Shore, L. M., & Liden, R. C. (1997). Perceived Organizational Support and Leader-Member Exchange: A Social Exchange Perspective. *Acad. Manag. J.*, 40, 82-11. <https://doi.org/10.5465/257021>
- Werner, J. (2000). Implications of OCB and contextual performance for human resource management. *Human Resource Management Review*, 10, 3-24.
- Williams, R. (2006). Generalized ordered logit/partial proportional odds models for ordinal dependent variables. *The Stata Journal*, 6(1), 58-82.

- Williams, R. (2016). Understanding and interpreting generalized ordered logit models. *The Journal of Mathematical Sociology*, 40(1), 7-20. <https://doi.org/10.1080/0022250X.2015.1112384>
- Witt, L., Kacmar, K., Carlson, D., & Zivnuska, S. (2002). Interactive effects of personality and organizational politics on contextual performance. *Journal of Organizational Behaviour*, 23, 911-926.
- Yee, T. W. (2008). The VGAM Package. *R News*, 8(2), 28-39.
- Yee, T. W. (2019). The VGAM Package for Categorical Data Analysis in R. Retrieved from <https://cran.r-project.org/web/packages/VGAM/vignettes/categoricalVGAM.pdf>
- Yin, R. K. (2006). *Case Study Research: Design and Methods*. Applied Social Research Methods series. Thousand Oaks, London: Sage Publications.
- Zeiger, S. (2021). What Are Some Suggestions for an Intrinsic Reward for Workers? *CHRON*. Retrieved from <https://smallbusiness.chron.com/improved-work-relationships-affect-performance-39051.html>

### Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>).