

# Intellectual stimulation and employee performance: Reflections on mid-level healthcare workers in Lira district, Uganda

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**Abstract:** The study sought to determine the influence of intellectual stimulation on the performance of middle level healthcare workers in Lira District Local Government. The objectives of the study were; to determine the level of intellectual stimulation among middle-line health workers in Lira district; to determine the level of performance among middle level healthcare workers in Lira District; and to determine the effect of intellectual stimulation on the performance of middle level employee in Lira District Local Government. The study adapted a cross-sectional survey design while incorporating both quantitative and qualitative methods. The study used stratified, purposive sampling and simple random sampling procedures to select health facilities, supervisors and middle level healthcare workers respectively. A total of 164 respondents were selected. Data was analyzed using STATA 15. The findings suggest that intellectual stimulation ( $\beta = 0.144, p < 0.01$ ), and individualized consideration ( $\beta = 0.190, p < 0.05$ ) have positive and significant influence on employee performance while intellectual stimulation has a negative insignificant effect on employee performance. The study recommends that management of health facilities should focus their efforts of management strategy on attracting, developing and retaining transformational leaders which could impact the organization in a more positive regard as employee become and remain engaged.

**Keywords:** Intellectual stimulation, employee performance, healthcare workers, Lira district.

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## 1. INTRODUCTION

This study aims to examine the effect of intellectual stimulation on the performance of mid-level healthcare workers in Lira District Local Government. Worldwide, there is an employee performance predicament in the public service as there is necessity to produce and save on production. This challenge, which affects both less-developing nations and more-developed countries similarly, increases the desire for proficiency and efficacy (Barasa, 2015). As a concern, there is necessity for assessment tools that aim to support in evaluating the performance of public service programs that have demonstrated insufficient over a long period of time. In the contemporary days, a style of leadership has been examined by social scientists (such as Khuwaja, 2020) and it has appeared as a new approach for handling healthcare workers and the society as a whole. The development of styles of leadership and how each influences the performance of healthcare workers dates as early as the 17<sup>th</sup> century (Islam & Rahman, 2020). From the end of 17<sup>th</sup> century, workers started facing diverse behaviours; that is, from treating them as machineries to treating them as human resources for the resolve of accomplishing different managerial objectives and or intentions (Islam & Rahman, 2020). In Africa, vibrant business atmosphere of contemporary establishments has attached a bigger challenge in smoothing less-performing personnel to increase their performance in a more and more spontaneous dominion as well as supporting every worker to grow into more

effective at the place of work. It is clear that uncountable organizations are on the lookout for new approaches and methods of development, particularly in the administrative facets, which can support them in realising effectiveness and efficiency (Wammy, 2014; Khuwaja, 2020). It is noted that if business efficiency and economic development are to be realised, organizations need to espouse numerous styles of leadership such as transformational, laissez faire, autocratic and transactional (Wammy, 2014). This is so because every style of leadership plays a role of inspiring healthcare workers, monitoring, handling, resolving conflicts and persuading them. This suggests that suitable embracing of a specific style of leadership is influenced by the culture and perspective, which fluctuate from one setting to another (Jing & Avery, 2016).

Leadership, in the health sector, has been designated as marshalling, inducing as well as communicating the organizational vision with a view of stimulating, motivating and allowing employee to work towards achieving a common vision (Aquino, 2015). As a result, effective leadership requires some managerial skills since dearth of which can cripple that organisation in a number of ways. In this study, one construct of transformational style of leadership (intellectual stimulation) is taken as independent variable and employee performance as the dependent variable. Transformational leadership is a style of leadership used across the spectrum of politics, health, education, entertainment, finance, technology, and the industry. The practices of transformational style of leadership, namely empathy, importance of collective identity, risk taking, kindness, relationship building, and goal articulation have proved to be very essential in a number of organisations (Chandrasekara, 2019). This style of leadership is reliant on reassuring and motivating groups to take part in shaping a successful future for an organization (Islam, Rahman, & Siddiqui, 2019). Also, this style of leadership embraces the establishment of a common purpose for the group; a concept entrenched in the official “vision” and “mission of an organization. In fact, the two aspects have become influential in helping leaders to define and outline the goals and objectives of organisations. For instance, through transformational leadership, an organization is capable of controlling juniors to feel motivated as they perceive their performance in terms of interest to the general good; so healthcare workers can strive to encourage organisational goals (Faiza, Longbao, Mohammad, & Qazi, 2019). The elements of transformational leadership include intellectual stimulation which encourages worker creativity and innovation, encouragement and support through mentorship; individualized consideration, intellectual stimulation which present a clear vision, meaning of task, empowering and giving subordinates thought-provoking tasks. As such, in transformational leadership, leaders appeal and serve as role models who can take ingenuities. Transformational leadership has been presented to be suitable for transforming individuals and the entire organization in the face of self-motivated circumstances consequently calling for learning so as to facilitate adoption, transformation of organizational culture as well as progress (Zohra, Mukaram, & Syed, 2018).

In Uganda, Public health facilities are led by a team of hospital managers; the head of the team is the Medical Superintendent. In their study, Mukundane, Nannungi and Bataringaya (2016) note that the Medical Superintendent is a medical doctor and works closely with the core hospital management team. In addition, the central Hospital management team consists of four to five multi-disciplinary senior specialists, viz.: Medical Superintendent, Health Services Administrator, Accountant, Pharmacist and the Deputy Director of Nursing Services. They further reveal that beyond this core team, the heads of every functional department of the hospital, i.e. the laboratory, pharmacy, outpatients, general ward, paediatrics and maternity, are considered to be members of a wider management team. The Ward managers, also known as in-charges, are senior nurses, directly responsible for supervising nurses and supporting frontline health workers in the Wards (Mundane, Nannungi, & Bataringaya, 2016). Newest studies expose that Health service delivery in Uganda has been pigeon-holed by feeble public health systems notwithstanding the abundant health sector reforms and policies aimed to advance the running and performance of the sector as well as the health status of the population (Ong’unya & Abbey, 2019).

A study by Ogola and Linge (2019) investigated the influence of intellectual stimulation leadership behavior on employee performance in Small and Medium Enterprises in Kenya. A correlational research design was employed to investigate the relationship between the independent variable and the dependent variable. A stratified proportionate random sampling technique was used to obtain a sample of 226 out of a target population of 553 Managers. Data was collected using MLQ structured questionnaire. Pearson’s correlation, multiple regression and chi-square techniques were used to analyze the data. The results showed that intellectual stimulation leadership behavior and Employee Performance in SMEs in Kenya had a strong positive and significant correlation  $r(194) = .722, p < .000$  and a positive and significant relationship,  $(\beta = .722, t(194) = 14.444, p < .000)$ . Impliedly, better employee performance is achieved when a leader encourages healthcare workers to think critically in dealing with problems that they encounter in the course of their work, use their own initiative, and seek innovative methods to approach their work and assignments.

Doris (2019) determined the moderating influence of employee motivation on the relationship between intellectual stimulation and employee engagement. The study adopted a positivist research philosophy to examine the influence on intellectual stimulation on employee engagement and data was collected using structured questionnaires. A correlational research design was conducted with the purpose of determining the strength of the relationship between parameters of intellectual stimulation and employee engagement. The findings showed that employee engagement has a statistical significant relationship with creativity and innovation,  $r(166) = 0.540$ ,  $p < 0.01$ ; job design,  $r(166) = 0.452$ ,  $p < 0.01$  and employee involvement,  $r(166) = 0.512$ ,  $p < 0.01$ . Multiple linear regression analysis revealed that employee motivation positively and significantly moderates the relationship between intellectual stimulation and employee engagement,  $R^2 = .409$ ,  $F(2, 159) = 55.115$ ,  $p < .05$ ;  $\beta = 0.259$ ,  $p < .01$ . The study concluded that creativity and innovation, job design, employee involvement, and employee motivation positively enhance employee engagement.

A study by Yasin, Samina and Khalid (2014), examined the relationship of individual construct of leadership style as intellectual stimulation to the innovations and SMEs performance. This study investigates this relationship in the SMEs and for this purpose data was collected from the 50 SMEs in Haripur, Pakistan. Out of 500 surveys 350 were returned and 348 were valid for analysis, response rate was 70%. Pearson correlation and regression analysis was used for investigation of this relationship. This study found that intellectual stimulation may be used as tool for the development of innovations and higher SMEs performance and this study also found a strong positive relationship of innovations to the SMEs performance. Moreover, Peng and Er Lin (2015) studied the influence of CEOs' intellectually stimulating behavior, namely, encouraging followers to bring up new perspectives and innovative approaches at work, on healthcare workers' perceptions of the meaningfulness of their work. Drawing from a collective sense making lens, we predicted that such CEO behavior would have a greater impact on experienced meaningfulness of work in contexts in which inputs to attributing meaning are less certain and clear-cut. Specifically, we examined the moderating roles of firm performance and industry dynamism. We surveyed the CEOs and healthcare workers from 43 firms in innovation-driven industries. Our findings reveal that lower firm performance or fast and volatile changes in the industry are connected with a resilient positive relationship between CEO intellectual stimulation and employee work meaningfulness.

In their study, Ndwiga and Ngaithe (2016) investigated the role of leadership on organizational performance in the perspective of customer service sector in Kenya. Data were gathered from 170 senior managers from 34 commercial state corporations in Kenya using self-administered questionnaire. By means of ordinary linear regression, their outcomes demonstrate that Intellectual stimulation did not have any significant effect on organization performance. The paper endorses that organizations aiming to improve organization performance ought to work on employee- responsive company philosophy, degree of employee's proclivity to be more productive than non-motivated healthcare workers, power of company financial inducements and team work. In addition, they must work towards discouraging handing over of tasks, career mentoring and coaching, and conception of new learning opportunities in conjunction with a supportive climate.

### **Employee performance**

The term performance is elaborated as the ultimate ability of an individual (employee) to use its knowledge and skills efficiently and effectively. So far, according to the research, the performance of healthcare workers is strictly related with his/her physical and academic profile (Iqbal, Anwar and Haider, 2019). In this regard, the healthcare workers' performance is most significant to bring about the results according to the international standards. The performance of the individuals solely depends upon the policies of the concerned institution about their pay package, rewards, bonuses, yearly increments and other perks and privileges (Bodla & Nawaz, 2010). Still, the academic profile of the healthcare workers has the highest standing among all other factors. On the whole, the productivity/output can be enhanced and sustained by the effectiveness of the leadership and an agile response of the healthcare workers (Zohra, Mukaram & Syed, 2018). On one hand, the leadership style induces emotional strength, motivation, commitment and the working relationship while on the other side; the healthcare workers perform with their utmost ability and diligence. The main attributes extracted from the relevant literature are the efficiency, effectiveness, productivity, and timeliness. On the other hand, there are some other attributes related with the healthcare workers' performance like the work ethics, communication, creativity, development, professionalism and the commitment. All of them contribute to the effective performance on the part of healthcare workers.

According to Rudman (2003), measuring the performance covers the evaluation of the main tasks completed and the accomplishments of the employee in a given time period in comparison with the goals set at the beginning of the period

(Akinbowale & Lourens, 2014). According to Kuvaas (2006), measuring performance encompasses the quality of the accomplishments, the compliance with the desired standards, the costs involved and the time taken in achieving the results. Bond and Fox (2007) contend that measuring employee performance is the basis of performance appraisal policy and performance management. Accurate and efficient performance measurement not only forms the basis of an accurate performance review but also gives way to judging and measuring employee potential (Fletcher & Bailey, 2003). According to Aguinis (2009), measuring the performance of the healthcare workers based only on one or some factors can provide with inaccurate results and leave a bad impression on the healthcare workers as well as the organization. For example, by measuring only the activities in employee's performance, an organization might rate most of its healthcare workers as outstanding, even when the organization as a whole might have failed to meet the goals and objectives (Akinbowale & Lourens, 2014).

### Problem statement

Obtainable studies reveal that there is a research gap which needs to be filled. Ndwiga and Ngaithe (2016) investigated the role of leadership on organizational performance in the context of customer service sector in Kenya; Yasin, Samina, and Khalid (2014), investigated the relationship of individual construct of leadership style as intellectual stimulation to the innovations and SMEs performance, and Ogola and Linge (2019), investigated the influence of intellectual stimulation leadership behavior on employee performance in Small and Medium Enterprises in Kenya. However, the few studies conducted in health sector were not in Uganda. This calls for further research on the influence of leadership styles on the performance of healthcare workers in health sector. From the methodological point of view, a majority of the studies reviewed, have either used correlation analysis or ordinary least squares (OLS) regression in their analysis. This study used robust regression because a number of the assumptions regarding the OLS regression were violated. None of the above studies appear to focus on the performance of healthcare workers in Lira district, hence this study.

## 2. METHODOLOGY

### Area of study

This study was conducted in all the government health facilities in Lira District. Lira District is located in Lango sub-region in Northern Uganda and is bordered by the districts of Pader in the Northern part, Otuke in North - East, Alebtong in the Eastern part, Dokolo in the Southern part, Kole in the Western part and both Oyam and Gulu in the North-Western part. Lira District has one Higher Local Government, one Municipal Local Government (with 4 division) and 9 Sub-County Local Governments. However, by the beginning of the FY 2020/2021 the municipality was elevated to a city status. Lira District has 31 health facilities with 1 regional referral hospital, 3 health center IVs, 17 health center IIIs and 10 health center IIs distributed across the district. Out of 31 health facilities, 7 are private non for profit (PNFP) health facilities and 24 are Government health facilities. These health facilities provide free health care services to clients.

### Study population

The study population comprised the middle level healthcare workers within the various departments in health facilities of Lira District. They include supervisors/in charges and middle level healthcare workers. The middle level healthcare workers were chosen because they are thought to be knowledgeable in the different attributes of transformational leadership styles executed by their supervisors. A sample of 164 middle level healthcare workers out of the total population of 250 health workers was selected using Krejcie and Morgan (1970) formula:

$$s = X^2 NP(1 - P) / d^2 (N - 1) + X^2 P(1 - P) \dots\dots\dots (1)$$

$X^2$  = the table value of chi-square for 1 degree of freedom at the desired confidence level (3.841);

N = the population size;

P = the population proportion (assumed to be 0.50 since this would provide the maximum sample size);

d = the degree of accuracy expressed as a proportion (.05).

**Table 1: Sample size determination**

| Population category             | Population | Sample     | Sampling technique     |
|---------------------------------|------------|------------|------------------------|
| Health facility in-charges      | 30         | 28         | Purposive sampling     |
| Middle level healthcare workers | 220        | 136        | Simple random sampling |
| <b>Total</b>                    | <b>250</b> | <b>164</b> |                        |

Source: LDHIS2, 2019.

Table 1 shows that a total of 164 respondents were sampled from middle level healthcare workers and their supervisors.

### Measurement of variables

Measurement of data is very important in studies that are quantitative in nature. Dependent variable, the performance of healthcare workers was assessed using a single Likert-type scale comprising of a 5-point rating ranging from 1 = strongly disagree, 2 = disagree, 3 = Undecided; 4 = agree, to 5 = strongly agree. Independent variables included the construct of transformational style namely; Individualized consideration, Intellectual stimulation and Intellectual stimulation. All these constructs were measured using a single Likert-type scale comprising of a 5-point rating scale ranging from 1 = strongly disagree, 2 = disagree, 3 = Undecided; 4 = agree, and 5 = strongly agree that measured directly on each statement by indicating the degree of agreement.

### Ethical considerations

Ethical approval was obtained from the Research ethics committee (REC) of the School of business and management science, Lira University. Participants were informed about the purpose of the study and the fact that the confidentiality of their responses would be insured by excluding personal identifiers and carefully securing the questionnaire in such a way that it is accessed only by the investigators.

### Background characteristics of the respondents

This section outlines the descriptive statistics calculated as obtained by the variables included in the biographical questionnaire. The background variables that receive attention are sex, level of education, marital status and age. The information of the respondents is summarized in table 4.1. The total number of respondents were 113, out of which the Majority 56 (54.0 %) were female and 49(46.0%) were male. In connection to marital status, the majority 87 (77%) are dominated by married respondents while the least 3(2.7%) were single. For education level, the majority 42(37.2%) of the respondents had diploma and the least 2(1.8%) had primary education. In regard to the education of the supervisor, the majority 51 (45.1%) had bachelor and the least 7(6.2%) had certificate. Finally, the majority 45(40.5%) of the respondents were in the age group 31-40 years and the minority 5(4.5%) were in the age group of 51 and above years.

### Descriptive statistics on performance

The level of performance was presented in terms of mean, standard deviation, and coefficient of variation as follows:

**Table 2: Summary statistics on efficiency and effectiveness**

| Constructs                                                               | Mean         | Std. Dev     | CV           |
|--------------------------------------------------------------------------|--------------|--------------|--------------|
| I am always accountable to my mistakes                                   | 4.333        | .778         | .18          |
| I ensure safety, ethics and efficient use of data obtain from clients    | 4.36         | .736         | .169         |
| I usually perform my duties effectively                                  | 4.468        | .675         | .151         |
| I usually provide efficient and effective guidance to the clients        | 4.495        | .631         | .14          |
| My services in this facility contribute to the well-being of the clients | 4.55         | .599         | .132         |
| <b>Average</b>                                                           | <b>4.441</b> | <b>0.684</b> | <b>0.154</b> |

The results show that all items had mean > 3.00, implying above average performance of these items. Overall, the average rating of productivity was 4.251 indicating above average performance for this construct. This implies that respondents agreed with their status of productivity. The coefficient of variation for the item "My services in this facility contribute to the well-being of the clients" (CV=0.132) is least indicating that this item was less dispersed. In other words, respondents had less divergent views that services in their facility contribute to the well-being of the clients.

**Table 3: Summary Statistics on productivity**

| Constructs                                                                | Mean         | SD           | CV           |
|---------------------------------------------------------------------------|--------------|--------------|--------------|
| I feel happy when doing my job                                            | 4.667        | .651         | .14          |
| I participate in collaborative projects within the facility               | 3.991        | .928         | .233         |
| I participate in discussions that raise social responsibility             | 4.171        | .862         | .207         |
| I regularly participate in events like meetings, conferences and seminars | 3.917        | 1.107        | .282         |
| I spend most of my time at work attending to the clients                  | 4.477        | .688         | .154         |
| I usually spend most of my time guiding and counselling clients           | 4.162        | .826         | .198         |
| My skills are suited for the type of work I do                            | 4.369        | .883         | .202         |
| <b>Average</b>                                                            | <b>4.251</b> | <b>0.849</b> | <b>0.202</b> |

The results show that all items had mean > 3.00, implying above average performance of these items. Overall, the average rating of productivity was 4.251 indicating above average performance for this construct. This implies that respondents agreed with their status of productivity. The coefficient of variation for the item “I feel happy when doing my job” (CV=0.154) is least indicating that this item was less dispersed” (CV=0.154) is least, indicating that this item was less dispersed. In other words, respondents had less divergent views on this item.

**Table 4: Summary statistics on timeliness**

| Constructs                                                                              | Mean         | SD           | CV           |
|-----------------------------------------------------------------------------------------|--------------|--------------|--------------|
| I always end my daily duties at the right time                                          | 4.243        | 0.917        | 0.216        |
| I regularly prepare my reports and accountability in time as required by my supervisors | 4.315        | 0.763        | 0.177        |
| I usually report and start my work in time                                              | 4.387        | 0.677        | 0.154        |
| <b>Average</b>                                                                          | <b>4.315</b> | <b>0.786</b> | <b>0.182</b> |

The results show that all items had mean > 3.00, implying above average performance of these items. Overall, the average rating of timeliness was 4.315 indicating above average performance for this construct. This implies that respondents agreed that they performed their duties timely. The coefficient of variation for the item “I usually report and start my work in time” (CV=0.154) is least indicating that this item was less dispersed. In other words, respondents had less divergent views on this item.

**Table 5: Robust regression for predicting employee performance**

| Performance              | Coef.  | St. Err. | t-value           | p-value | [95% Coef. Interval] | Sig    |
|--------------------------|--------|----------|-------------------|---------|----------------------|--------|
| Intellectual Stimulation | -0.007 | 0.067    | -0.11             | 0.916   | -0.140               | 0.125  |
| Constant                 | 3.080  | 0.211    | 14.62             | 0.000   | 2.662                | 3.499  |
| Mean dependent var.      |        | 4.337    | SD dependent var. |         |                      | 0.465  |
| Adj. R-squared           |        | 0.331    | Number of orbs    |         |                      | 96.000 |
| F-test                   |        | 15.203   | Prob. > F         |         |                      | 0.000  |

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

The robust regression analysis was carried out to establish the degree of effect of transformational leadership constructs on employee performance. It was found that individualized consideration ( $p < 0.05$ ,  $\beta = 0.190$ ), and intellectual stimulation ( $p < 0.001$ ,  $\beta = 0.144$ ) are significant predictors of healthcare workers performance. Jointly, Intellectual Stimulation, individualized Consideration and Intellectual stimulation explain 33.1% of all the possible factors that are likely to account for performance of middle level healthcare workers in Lira District (Adjusted  $R^2 = 0.331$ ). This indicates that 33.1% variability in performance of healthcare workers in Lira District even after taking a number of predictor variables. The fact that the simultaneous variation of independent variables explains performance of healthcare workers to the extent of 33.1%, an increase in 0.190 score in performance of healthcare workers for every unit increase in intellectual stimulation, assuming all other variables in the model are held constant. Similarly, an increase in 0.144 score in performance of healthcare workers for every unit increase in intellectual stimulation assuming all other variables in the model are held constant.

**Table 6: Summary statistics for intellectual stimulation**

| Constructs                                                                              | Mean         | Std. Dev     | CV          |
|-----------------------------------------------------------------------------------------|--------------|--------------|-------------|
| My supervisor re-examines critical assumptions to question whether they are appropriate | 3.667        | 1.115        | .304        |
| My supervisor suggest new ways of looking at how to complete assignments                | 3.875        | .941         | .243        |
| My supervisor gets me to look at problems from many different angles                    | 3.789        | 1.019        | .269        |
| My supervisor Seeks differing perspectives when solving problems                        | 3.839        | 1.119        | .292        |
| <b>Average</b>                                                                          | <b>3.793</b> | <b>1.049</b> | <b>.277</b> |

Specifically, on a scale 1-5, the average rating of intellectual stimulation is 3.793 indicating above average performance for this construct. This implies that respondents agreed that the items of intellectual stimulation that are necessary for improving employee's performance were practiced by their supervisors. The coefficient of variation for the item "My supervisor suggests new ways of looking at how to complete assignments" (CV=0.243) is least indicating that this item was less dispersed.

#### Relationship between intellectual stimulation construct and employee performance

The study used Pearson product-moment correlation analysis to establish the strength of relationship between transformational leadership construct and healthcare workers' performance. The correlations results are interpreted on the basis that when two variables are related, positively or negatively, they vary together. This research study considers the case where we have several independent variables and one dependent variable. In other words, the correlation scores show how well the independent variables are able to predict the dependent variable. In addition, correlations estimate the extent to which the changes in one variable are associated with changes in the other variable. If the coefficient of correlation is -1 it is considered a perfect negative correlation and if the correlation is +1 then it is considered a perfect positive correlation. The closer the value is to -1 or +1 the stronger the relationship is considered to be. The summarized correlations and their significance levels are presented Table 7.

**Table 7: Pairwise correlations of study constructs**

| Variables                    | (1)    | (2)    | (3)    | (4)   |
|------------------------------|--------|--------|--------|-------|
| (1) Performance              | 1.000  |        |        |       |
| (4) Intellectual stimulation | 0.527* | 0.374* | 0.474* | 1.000 |

\* significance at the 0.05 level

The results show that Healthcare workers performance is positively and significantly correlated to: intellectual stimulation ( $r=0.446$ ,  $p<0.05$ ), idealized consideration ( $r=0.551$ ,  $p<0.05$ ), and intellectual stimulation ( $r=0.527$ ,  $p<0.05$ ). This implies that as the scores in Intellectual Stimulation, Idealized Consideration and Intellectual stimulation increase, the scores in employee's performance increases. Intellectual stimulation is positively correlated with idealized consideration ( $r=0.803$ ,  $p<0.05$ ) and intellectual stimulation ( $r=0.374$ ,  $p<0.05$ ). Idealized consideration is positively and significantly associated with intellectual stimulation ( $r=0.474$ ,  $p<0.05$ ). This implies that a unit increase in Intellectual Stimulation, Idealized Consideration and Intellectual stimulation would significantly increase healthcare workers' performance in Lira city.

#### Regression analysis for predicting employee performance

A multivariate regression model was applied to determine the relative importance of each of the three variables of transformational leadership with respect to employee's performance. Precisely, regression analysis was performed to estimate the amount of increase in the healthcare workers' performance that would be predicted by a unit increase in transformational leadership construct. Before running Linear regression analysis, three assumptions for reliable estimation of parameters were tested namely; Normality of Residuals, Homoscedasticity of Residuals and Multi-collinearity. Diagnostics are analysis techniques that give an idea about determining levels of unfavorable cases such as lack of model and heterogeneity of variances which can be encountered in data set and violations of the assumption leads to unrealistic results.

#### Normality of residuals

Normality of the residuals was tested using the swilk test which performs the Shapiro-Wilk W test for normality. The p-value is based on the assumption that the distribution of the residual is normal. In Table12, it is very small ( $p<0.001$ ), indicating that we can reject that  $r$  is normally distributed.

**Table 8: Shapiro-Wilk W test for normal data**

| Variable | Obs | W     | V     | z     | Prob>z |
|----------|-----|-------|-------|-------|--------|
| Resid.   | 104 | 0.919 | 6.895 | 4.292 | 0.000  |

**Homoscedasticity of residuals**

One of the main assumptions for the ordinary least squares regression is the homogeneity of variance of the residuals. Since the model is well-fitted, there should be no pattern to the residuals plotted against the fitted values. Since the variance of the residuals is non-constant, then the residual variance is said to be “heteroscedastic. The non-graphical test i.e. hottest, the Breusch-Pagan test was used. It tests the null hypothesis that the variance of the residuals is homogenous. Therefore, since the p-value is very small, we would have to reject the hypothesis and accept the alternative hypothesis that the variance is not homogenous. So in this case, the evidence is against the null hypothesis for heteroscedasticity in table13 that the variance is homogeneous.

**Table 9: Breusch-Pagan / Cook-Weisberg test for heteroscedasticity**

|                                         |          |
|-----------------------------------------|----------|
| Ho: Constant variance                   |          |
| Variables: fitted values of performance |          |
| chi <sup>2</sup> (1)                    | = 44.46  |
| prob > chi <sup>2</sup>                 | = 0.0000 |

**Checking for multicollinearity**

When there is a perfect linear relationship among the predictors, the estimates for a regression model cannot be uniquely computed. The term collinearity implies that two variables are near perfect linear combinations of one another. The primary concern is that as the degree of multi-collinearity increases, the regression model estimates of the coefficients become unstable and the standard errors for the coefficients can get wildly inflated. The VIF was used to test for multi-collinearity. Variance Inflation Factor (VIF)–the variance inflation factor of the linear regression is defined as  $VIF = 1/T$ . With  $VIF > 5$  there is an indication that multicollinearity is present; with  $VIF > 10$  there is certainly multicollinearity among the variables. All of the variables measure of transformational leadership have low VIF values indicating that these variables are possibly not redundant. Therefore, ordinary least square regression is plausible.

**Table 10: Variance inflation factor**

| Variables                | VIF   | 1/VIF |
|--------------------------|-------|-------|
| Intellectual stimulation | 1.278 | .782  |
| Mean VIF                 | 2.701 | .     |

**The effect of intellectual stimulation on employee performance**

The third objective was to establish the effect of Intellectual stimulation on employee’s performance in Lira District. The study found that intellectual stimulation had no significant effect on employee’s performance in Lira District. This finding disagrees with Faiza, Longbao, Mohammad & Qazi (2019), who agree that Intellectual Stimulation involves followers in developing new and different solutions to common. This type of leadership supports followers as they try new approaches and develop innovative ways of dealing with organizational issues. It promotes followers’ thinking things out on their own and engaging in careful problem solving.” Intellectual stimulation involves exciting individual’s cognitive ability, so that he or she can engage in independent thinking in the course of carrying out job responsibilities. Ogola and Linge (2019), investigated the influence of intellectual stimulation leadership behavior on employee performance in Small and Medium Enterprises in Kenya. The results showed that intellectual stimulation leadership behavior and Employee Performance in SMEs in Kenya had a strong positive and significant correlation  $r(194) = .722, p < .000$  and a positive and significant relationship,  $(\beta = .722, t(194) = 14.444, p < .000)$ . Impliedly, better employee performance is achieved when a leader encourages healthcare workers to think critically in dealing with problems that they encounter in the course of their work, use their own initiative, and seek innovative methods to approach their work and assignments. In another instance, Doris (2019), determined the moderating influence of employee motivation on the relationship between intellectual stimulation and employee engagement. The findings showed that employee engagement has a statistical significant relationship with creativity and innovation,  $r(166) = 0.540, p < 0.01$ ; job design,  $r(166) = 0.452, p < 0.01$  and employee involvement,  $r(166) = 0.512, p < 0.01$ . Multiple linear regression analysis revealed that employee motivation positively

and significantly moderates the relationship between intellectual stimulation and employee engagement,  $R^2 = .409$ ,  $F(2, 159) = 55.115$ ,  $p < .05$ ;  $\beta = 0.259$ ,  $p < .01$ . The study concluded that creativity and innovation, job design, employee involvement, and employee motivation positively enhance employee engagement. This is in line with the views of the six health in-charges out of the ten interviewed who put it that, 'the adoption of intellectual stimulation improves on the performance of the staff'.

Yasin, Samina, & Khalid (2014), investigated the relationship of individual construct of leadership style as intellectual stimulation to the innovations and SMEs performance. This study investigates this relationship in the SMEs and for this purpose data was collected from the 50 SMEs in Pakistan. Out of 500 questionnaires 350 were returned and 348 were valid for analysis, response rate was 70%. Pearson correlation and regression analysis was used for investigation of this relationship. This study found that intellectual stimulation may be used as tool for the development of innovations and higher SMEs' performance and this study also found a strong positive relationship of innovations to the SMEs performance.

### **3. CONCLUSION**

This study aimed to examine the effect of intellectual stimulation on the performance of healthcare workers in Lira district. The results suggest that intellectual Stimulation does not significantly affect the performance of healthcare workers in Lira District. It is inferred that administrators in healthcare facilities can invest in other aspects such as idealized consideration if they must achieve high performance of healthcare workers in Lira district.

### **4. RECOMMENDATION**

The Human Resource Department of Lira district needs to focus their talent management strategy on attracting, developing and retaining transformational leaders which as result in the long-term, could impact the business in a more positive regard as healthcare workers become and remain engaged.

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