Head Teachers' Transformational Leadership Styles and Teachers Job Satisfaction in Government-aided Primary Schools in Sheema Municipality

Allen Kanyesigye and Zikanga Kiyundo

Department of Educational Management and Administration of Kampala International University

ABSTRACT

This study investigated the effects of head teachers' transformational leadership styles on job satisfaction among teachers in Government Aided Primary Schools Central Division, Sheema Municipality. Specifically, the study examined the relationship between head teachers' inspiration motivation aspect and their influence on job satisfaction of teachers, determined whether the head teachers individualized consideration influence job satisfaction of teachers, and assessed whether head teachers' intellectual stimulation aspects influence the job satisfaction of teachers in government aided primary schools in Central Division, Sheema Municipality, Sheema District. This study employed a quantitative research approach to examine the variables of interest and the study adopted a correlational research design on a sample of 102 teachers and head teachers. Data was collected using a self-administered questionnaire. Quantitative data was analysed using descriptive statistics namely frequencies, percentages and means and interferential methods that are correlation analysis and multiple regression. The findings revealed that there was no significant relationship between head teachers' inspiration motivation and its relationship with job satisfaction of teachers. It was thus concluded that the contribution of head teachers' inspirational motivation and individualized consideration to the response variable to the response variable were only 19 % and 32% respectively and thus there was no significant relationship between head teachers' inspiration motivation, head teachers' individualized consideration and teachers' job satisfaction. Therefore, it was recommended that head teachers in government aided primary schools in Central Division, Sheema Municipality, Sheema District should come up with better inspirational motivation strategies to demonstrate to teachers that a teaching job is as good as any other career. They should do so by offering competent instructional leadership that would sharpen their teachers' intellect.
Keywords: Head Teachers, transformational leadership styles, teachers job satisfaction and Government aided schools.

INTRODUCTION

Education is a weapon for arming society members with necessary skills, information, and habits for survival in an ever-changing environment. Because education is a dynamic instrument of change, industrialized countries and those seeking growth have used it as a tool for national development [1]. As a result, excellent teacher performance is critical for education to fulfill its transforming function. The relationship between head teachers' leadership styles and teachers' job satisfaction in primary schools has been a topic of interest for educational researchers and practitioners for many decades. In fact, the earliest known scholarly Taylor [2], worked on this subject dates back to the late 19th century. While Taylor's focus was on industrial organizations, his ideas about the importance of efficient leadership and its impact on worker productivity laid the groundwork for later research on educational leadership. Taylor [2], argued that by adopting a more systematic and scientific approach to management, leaders could optimize organizational performance and increase worker satisfaction. Building on Taylor's work, early 20th century researchers such as Max Weber and René Lémaire began to explore the concept of "transformational leadership" in the context of educational settings. Weber [3], theory of "charismatic leadership" proposed that effective leaders possess certain personal qualities that inspire and motivate their followers, while Lémaire [4], work on "participative management" emphasized the importance of involving teachers in decision-making processes.

These early theories were further developed in the 1950s and 1960s by scholars like Argyris [5], and McGregor [6]. Argyris [5], argued that traditional, hierarchical management approaches often fail to meet the psychological needs of workers, leading to job dissatisfaction and decreased productivity. McGregor [6], on the other hand, proposed the "Theory X" and "Theory Y" models of leadership, suggesting that leaders who adopt a more collaborative and supportive approach (Theory Y) are more likely to foster job satisfaction among their employees. Countries have suggested improving schools in order to get excellent performance, with a focus on head teachers' leadership and the advancement of their academic standing. This is due to the positive effects that capable school leadership has on both academic success and teacher effectiveness. The most successful philosophy for influencing and maintaining teachers' job happiness is transformational leadership, despite suggestions that head teachers embrace leadership philosophies such as transactional, contingent, and instructional. This is because transformational leadership approaches have a substantial and positive correlation with teachers' job satisfaction and dedication [7]. Around the world, emphasis is placed on education quality. As per the United Nations Educational, Scientific, and Cultural Organization (UNESCO), (2012), students who have a high-quality education are inspired and are able to enhance their problem-solving skills. A citizen who has access to high-quality education is better able to participate in political and economic advancement, make informed decisions, and advance society. More teacher job satisfaction is a prerequisite for achieving high-quality education [7]. Many countries throughout the world have emphasized how crucial school leadership is to implementing education policy and raising teacher job satisfaction. School administrators are reevaluating their institutions' leadership in an effort to enhance staff and student performance, according to Obama's Race to the Top initiative [7]. In Africa, a shift toward enlightenment in society as a whole cannot be achieved without education [6]. It supports societal, economic, and national development in addition to a person's positive transformation [6]. Effectiveness and efficiency-focused educational changes are highly prioritized both on the continent as a whole and in Uganda specifically. Numerous notable changes have been made to the educational systems of African countries since they gained independence, with the goal of raising academic standards and student achievement. According to Tai et al., [8], effective educational reforms cannot take place in educational organizations until the process of change is initiated appropriately by the head teachers of the schools.

School administrators are therefore crucial to the implementation of these improvements. Mangin et al. [9] contend that good leadership is necessary for every organization to function efficiently and effectively, and that head teachers' leadership is especially important for meeting performance targets set out by their pupils and, consequently, for carrying out educational plans. Education plays a significant role in the lives of learners. Understanding the impact head teachers have on teachers' job satisfaction in achieving educational goals is crucial since teachers play a critical role in achieving the aforementioned goals. Allen [7], noted that most head teachers are too busy doing menial tasks and keeping tabs on teachers and students, and they often lose sight of the importance of academic achievement. Templeton et al. [10], state that most head teachers lack the necessary training to implement the recommended educational policies. Even if administrators lack the necessary training in terms of knowledge and leadership skills, the demands placed on them by the schools have increased to an unsustainable level. This is the result of the head teachers' incapacity to effectively supervise the instructors, since they need to build a friendly relationship between all parties. As they oversee a multitude of duties, such as staff training, curriculum harmonization, creating a supportive learning environment, managing the school budget, and strengthening relationships between the school and the community, head teachers remain unquestionably significant and have grown increasingly complex [11]. According to Ndinga [12], head teachers are unable to achieve the school's goals and objectives in the absence of suitable teacher participation. Instructors must have the ability to make judgments, have their efforts recognized, be treated fairly, and get feedback on time. Feedback helps teachers see the truth or fallacy in human behavior and provides them with the resources they need to improve as educators as well as help them recognize and correct their own errors [13]. The panel acknowledged the importance of head teachers' leadership in creating and modifying the school environment, as highlighted by Cemboi [14], who asserted that head teachers' leadership defines whether the school climate is favorable or unfavorable.

Statement of the Problem

According to Wahyudi [15], 70 percent of happy teacher demonstrates dedication, and kids always perform well academically as a result. According to the author, good academic achievement has advantages for the entire country, not just for students or institutions. Nonetheless, Sheema Municipality teachers have demonstrated their discontent with their positions by being late for class,

refusing to attend school-sponsored activities, and spending their lesson periods in the staff room [16]. It is crucial to comprehend the connection between head teachers' leadership styles and teachers' work satisfaction in the context of education, even though the precise causes of teachers' discontent with their jobs at Sheema Municipality's primary schools are still unknown. It is still unclear how head teachers' specific leadership behaviors affect teachers' job satisfaction in Sheema Municipality, despite the known importance of effective leadership in influencing work conditions and employee satisfaction. In the ideal scenario, primary school head teachers would exhibit transformational leadership styles that inspire and motivate their teaching staff. This approach would foster a positive work environment, where teachers feel empowered, supported, and satisfied with their jobs [17]. By creating a shared vision, intellectual stimulation, and individualized consideration, head teachers would enable teachers to thrive, leading to improved student outcomes and a flourishing school community [18]. However, the reality in primary schools within Sheema municipality may not reflect this scenario. This study has been conducted to understand the specific relationship between headteachers transformational leadership styles and teachers job

satisfaction in this context. Therefore, headteachers transformational leadership styles have contributed much to the unsatisfactory performance of teachers' in schools in Central Division Sheema Municipality Sheema District.

Research Hypothesis

H0$_1$: In Sheema Municipality's government-aided primary schools, there is no discernible relationship between the inspiring motivation of head teachers and the job happiness of instructors.

H0$_2$: Teachers' job satisfaction in government-aided primary schools in Sheema Municipality, Sheema District, is not significantly impacted by head teachers' individual consideration.

H0$_3$: The intellectual stimulation of head teachers and the level of job satisfaction experienced by teachers at government-aided primary schools in Sheema Municipality, Sheema District, are not significantly correlated.

Conceptual Framework

Figure 1 depicts a conceptual framework that explains how the independent variable (Head Teachers' Transformational Leadership Style) influences Teachers' Job Satisfaction as a dependent variable.

Independent Variable
(Head Teachers' Transformational Leadership Style)

Dependent Variable
(Teachers' Job Satisfaction)

1. Inspirational Motivation
   - Articulating a Compelling Vision
   - Empowering Others
   - Setting High Expectations
2. Individualized Consideration
   - Supporting Work-Life Balance
   - Flexible Leadership Style
   - Providing Personalized Professional Development
3. Intellectual Stimulation
   - Encouraging Critical Thinking:
   - Supporting Innovation

- Increased productivity
- Reduced teacher turnover
- Positive Relationships with Colleagues

Figure 1: Conceptual Framework (Researcher, 2024)

The conceptual framework (Figure 1) described the relationship between Head teachers' Transformational Leadership Style (Independent variable) and Teachers' Job Satisfaction (dependent variable). From the framework, teachers' job satisfaction is connected to head teachers' transformational leadership style directly. Head teachers' transformational leadership style is indicated by head inspirational motivation, individualized consideration and intellectual stimulation. Thus, inspirational motivation, individualized consideration and intellectual stimulation are individually directly related with teachers' job satisfaction.

METHODOLOGY

Research Design

This study used correlational design. When examining the relationships between the independent and dependent variables, or the variables of interest, the correlational research design is employed. The design was typically employed since correlational investigations are the quickest and easiest method to ascertain whether two variables are related [19]. In order to convey the degree of a link between two variables in a form that is precise, comprehensible, and unambiguous, the correlational research strategy was applied in this study. Data analysis used a mixed research design that combines qualitative and quantitative methods. The use of a quantitative approach aided in the analysis of quantitative data, while the use of qualitative data enhanced quantitative data by offering in-depth information in the form of interview statements. The study made statistical conclusions and conducted in-depth analysis by utilizing both quantitative and qualitative techniques to data analysis.

Research Approach

The research strategy is selected in accordance with the research design and methodology, which outline the appropriate research procedures to support the research technique. This study employed a quantitative research approach to examine the variables of interest. The research design involved the collection of numerical data through a carefully constructed survey instrument. The survey questions were designed to capture the participants' responses on various scales, enabling the quantification of the constructs [20]. The data was then subjected to statistical analysis, including descriptive statistics, correlation analysis, and multiple regression. This quantitative approach allowed for the identification of statistically significant relationships and the assessment of the explanatory power of the proposed model. The findings from the quantitative analysis provide objective and generalizable insights.

Study Population

Population, according to Gray et al. [21], is all the components that satisfy the requirements to be included in a study. Put otherwise, the population is the whole of individuals who meet a specified need. Accordingly, a target population is a collection of people (or groups of organizations) who share certain common traits that make them easy for researchers to identify and examine [22]. 16 head teachers and 488 teachers from 16 government-aided primary schools in Sheema District made up the study's target population of 504. For reasons of secrecy, the schools were represented by alphabetical letters. The study's target population was broken down by population type in Table 1.

Table 1: Target Population

S/No	School	Head teacher	Teachers	Total
1	A	1	40	41
2	B	1	38	39
3	C	1	30	31
4	D	1	23	24
5	E	1	37	38
6	F	1	28	29
7	G	1	29	30
8	H	1	24	25
9	I	1	21	22
10	J	1	41	42
11	K	1	35	36
12	L	1	22	23
13	M	1	29	30
14	N	1	26	27
15	O	1	32	33
16	P	1	33	34
Total		**16**	**488**	**504**

***Source*: Sheema Municipality Education Office**

Sample Size Determination and Distribution

According to Diehl (1992), for populations of less than 1000, at least 30 % of the population should be included in the sample. The researcher used 12 (75 %) out of 16 primary schools since they were all in the municipality. The 12 schools were purposively selected. Sloven's formula,

$n = \frac{N}{1+N\times e^2}$ was used to determine the sample size.

Where n = Sample size

N = Population size

e = Acceptable margin of error (0.05)

$$n = \frac{504}{1+504\times0.05^2} = 223$$

The sample comprised of all Head teachers from 12 purposively selected primary schools, and 211 teachers. Each school's number of teachers included in the sample based on the proportion of the teachers from the school in the total number of teachers in the 12 selected primary schools. After that, teachers from each school were randomly picked. Randomization ensured that each teacher had an equal chance of being selected.

Table 2: Sample Distribution

S/No	School	Head teacher	Teachers	Teachers Selected	Total
1	C	1	30	17	18
2	E	1	37	22	23
3	F	1	28	16	17
4	G	1	29	17	42
5	H	1	24	14	35
6	I	1	21	12	34
7	J	1	41	24	29
8	K	1	35	21	21
9	L	1	22	13	29
10	M	1	29	17	31
11	O	1	32	19	31
12	P	1	33	19	27
Total		**12**	**361**	**211**	**223**

Source: Primary Data (Researcher, 2024)

Sampling Techniques

Because the study was both quantitative and qualitative in nature, purposive sampling and simple random sampling were used to select particular participants to offer in-depth viewpoints. The purposive sampling approach that was employed is intensity purposive sampling. Since the sample size of 223 is not enormous, the researcher intended to use every respondent. Intentional or purposive sampling was used to choose all head teachers from the real population, while simple random selection was used to choose teachers.

Data Collection Instruments/methods
Self-Administered Questionnaire

Since this study was mostly quantitative in nature, the self-administered questionnaire (SAQ), which consisted of sections I and II, were the primary tool used to gather data. The first section of the study focused on the demographic characteristics of the participants, including their age, gender, education level, experience, and responsibilities. Section II focused on the transformational leadership styles of head teachers and is divided into three subsections: A) The impact of head teachers' inspirational motivation on teachers' job satisfaction; B) The relationship between a head teacher's individualized influence and performance; and C) The relationship between a head teacher's intellectual stimulation and teachers' job satisfaction. A five-point Likert scale was used for ranking, with 1 denoting strongly disagree, 2 disagree, 3 fairly agree, 4 agree, and 5 strongly agree. Teachers were given the self-administered questionnaires since they quickly gather data from a big population.

Data Quality Control
Validity of the Instruments

By ensuring that the items on the primary variables (independent and dependent variables) in the instruments adhered to the conceptual framework of the study, the researcher attempted to establish the content validity of the instruments. The validity of the question items followed the supervisors' assessment of the items' relevance, clarity, and language in the instruments. The instrument were

validated with an emphasis on the completeness, clarity, and relevance of the questions in connection to the research constructs [22]. With the aid of two research assistants, the inter judge were utilized to determine the content validity index.

To get the average index (CVI), each judge offered their assessment on a two-point scale of Relevant (R) and Irrelevant (IR). The items deemed unnecessary were removed or replaced with those that are. The CVI calculation formula is as follows:

$$CVI = n/N$$

Where: n = number of items rated as relevant and N is total number of items in the study.

CVI=37/41

CVI=0.902

CVI=0.9

The CVI for the questionnaire was considered valid at above 0.9 and the benchmark in a survey should 0.7 and above [23]. This implied that the instruments were valid.

This ensured accuracy of the instrument (see Appendix; Questionnaires). The psychometric properties of tools used in research on head teachers' transformational leadership styles and teachers' job satisfaction in primary schools are crucial for ensuring the validity and reliability of the findings. These properties include the instrument's content validity, construct validity, internal consistency, and test-retest reliability. Rigorous evaluation of these properties is essential to ensure the research accurately captures the intended constructs and provides trustworthy results.

Reliability

Reliability is defined as the degree to which a research tool yields consistent findings [24]. The reliability of the questionnaire was assessed using Cronbach's Alpha, which did so by comparing an item on an exam against a set of questions. A pilot test that gathered information from head teachers and pupils at two schools in the Sheema Municipality were used to determine reliability. The sample would not include these schools. There were 48 teachers and 2 headteachers among the 50 responders in total. The target demographic was represented by 10% of this sample size. The scale for reliability integrated within the statistical package for social sciences (SPSS) were used to analyze the data gathered from the pilot test. If the results showed an alpha of α = 0.7 and higher, the instruments were considered dependable [11].

According to Korstjens & Moser [25], ensuring the data collected from participants was consistent with the study's conclusions, interpretation, and recommendations is crucial to attain dependability. To attain compliance, it was imperative to substantiate that the information and analyses

derived from the data are authentic and not figments of the researcher's imagination [26].

Finally, in order to prevent biases, preferences, and assumptions from influencing the study, reflexivity requiresd the researcher to critically reflect on their own experiences [25].

Procedure of Data Collection

To collect data, the researcher requested a letter from the Directorate of Higher Degrees and Research (DHDR) Kampala International University Western Campus authorizing her to move forward with data collecting after research proposal had been approved by the Research Ethics Committee (REC). This letter was given to the principals of several primary schools, who later introduced the researcher to the appropriate teachers in order to gather data. The researcher continued to make note of the key topics while collecting the interview guide's data. Data was then coded, examined, and a report generated.

Data Analysis

Data analysis is the process of carefully describing, summarizing, and assessing collected data using logical and statistical techniques [27]. This holds true for both quantitative data that has been gathered. To ensure that the data met the required requirements for quality, accuracy, and completeness, it must be collected, assembled, categorized, edited, and coded [28]. Once the data was in the computer, analysis was done using the Statistical Package for Social Sciences (SPSS). The association between the transformational leadership style of the head teachers and the teachers' job satisfaction in Sheema Municipality, Sheema District, Uganda was evaluated using the Pearson correlation coefficient (r) after qualitative data was analyzed thematically.

To address the first research objective, the researcher would analyze the relationship between head teachers' inspirational motivation and teachers' job satisfaction. This would involve collecting data on the inspirational leadership behaviors of head teachers and the job satisfaction levels of their teaching staff. Statistical analysis, such as correlation or regression, could be used to determine the strength and direction of the relationship. For the second objective, the researcher investigated the connection between head teachers' individualized consideration and teachers' job satisfaction. This would require assessing the extent to which head teachers provide personalized support, coaching, and recognition for their teachers, and how these factors relate to the teachers' overall job satisfaction. Finally, to explore the third objective, the relationship between head teachers' intellectual stimulation and teachers' job satisfaction was analysed. This would involve examining the degree to which head teachers encourage creativity, critical thinking, and problem-

solving among their teaching staff, and how these factors influence the teachers' job satisfaction levels. The amount that the mean of the dependent variable varied in response to a one-unit change in one of the independent variables while keeping the values of the other variables constant was also ascertained through the application of multiple regression analysis. Stated differently, it made it easier to examine how multiple variables could have simultaneous influence on the intended outcome [29]. To put it simply, the basic idea was a continuation of single-variable simple linear regression.

This is how the multiple regression model was expressed as:

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$, where: Y is the dependent variable (Teachers job satisfaction); β_0 is the intercept (the value of Y when all independent variables are zero); β_1, β_2, β_3 are the regression coefficients representing the strength and direction of the relationship between each independent variable (X_1, X_2, X_3) and the dependent variable, Y; ε is the error term, representing unobserved factors that affect the dependent variable but were not included in the model.

Testing each of the several regression assumptions was crucial before executing regression analysis, as this ensured the validity and dependability of the results [30]. It is possible, according to Knief & Forstmeier [30] that, these assumptions were false, which could lead to inaccurate forecasts, biased or inefficient parameter estimations, and flawed hypothesis testing. According to Williams et al., [28], multiple regression analysis is commonly used to examine the following basic assumptions: multicollinearity tests, linearity, homogeneity, and normality. Correlation and regression analysis was carried out in accordance with the stated hypotheses to ascertain the relationships between the independent and dependent variables. In line with the goals of the study, the qualitative data from the interview was grouped and its contents divided into themes for thematic analysis. In accordance with the goals of the study, the qualitative data from the

interview was sorted, and the contents were divided into themes for thematic analysis.

Ethical Considerations

In order to protect the rights, welfare, and dignity of study participants as well as other stakeholders, ethical concerns are essential [31]. Depending on the subject matter and kind of research being done, these factors change. Thus, the researcher made sure that research ethics are followed in the study's conduct. The following were done in order to uphold ethical standards: gaining informed permission; guaranteeing anonymity and confidentiality; protecting privacy; weighing advantages and disadvantages; and getting the assent of people who were taking part in the study is known as informed consent. Teachers were requested to participate in the study if they were confident that's what they wanted to do.

Anonymity: Anonymity refers to study participants giving information or data without disclosing who they are. By shielding the respondents' identity by not marking them on their responses, anonymity was preserved.

Confidentiality: To safeguard the subject's identity, the researcher must manage confidential material with care. This was made sure of by making sure responders gave answers in private and by withholding their identities.

Balancing of risks and benefits: Handling the risks and hazards associated with research is part of the process of balancing rewards and risks. By guaranteeing that the respondents gave answers in confidence for both students and teachers, the risks and benefits were balanced.

Plan for dissemination: This calls for informing various stakeholders, such as legislators, educational institutions, and the local community, about the findings. A hard copy of the dissertation was sent to the university library, and a soft copy posted to the university repository in order to share the results. Furthermore, the study's findings were published in open peer review journals so that other stakeholders can access them.

RESULTS

Descriptive Statistics

The researcher in this section considered the following demographics: research instruments response rate (questionnaires response rate); Teachers' gender; age group; education qualifications; and number of years in service.

Age group

The sample population was consisted various age sets. Of the various age sets the lowest percentage was from the 20-30 years age group followed by 41 years and above. The age group with the highest frequency was 31-35 years with a percentage of 38% followed by the age group of 35-40 years at 32%
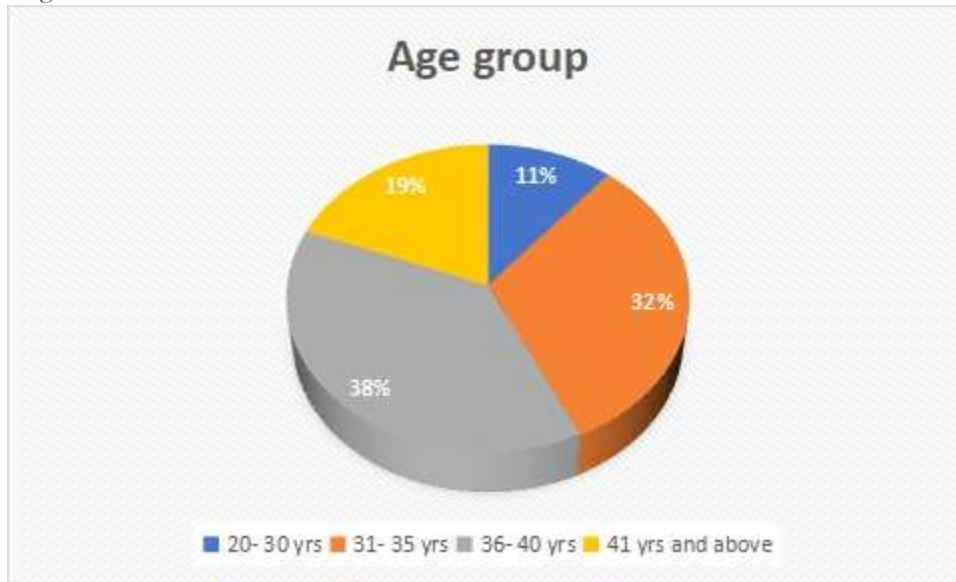
Figure 2: showing age group

Level of Education

The participants had obtained various levels of education ranging from diploma, bachelors and post-graduate degrees. The frequency table below gives a summary of their education levels.

Table 3: Level of Education

Education Qualification		
	Number	Percent
Diploma	65	65.0
BA Education	20	20.0
PGDE	15	s15.0
Total	100	100.0

The participants with the highest frequency were holders of diploma followed by those with bachelors and lastly those with post-graduate diploma in education.

Number of years in Service

The participants were also categorized in terms of the number of years in service: The figure below maps the participants in the various categories:

Figure 3: showing number of years in service

54

Correlation of variables

Correlation is a statistical assessment that recounts the expanse to which two variables transpose conjointly [32]. In the opinion of Schober et al [19], if there is a rise in one variable that tends to be associated with a rise in another variable, the two variables are said to have a positive correlation. They go on to state that, if a rise in one variable tends to be associated with a fall in another variable, there is a negative correlation.

Mean and standard deviation of variables

The researcher also computed correlations to show the linear relationship between each of the independent variables and the dependent variable. Questionnaire items 1- 5; 6- 15; 16- 18; and 19- 28 were combined to get the mean and standard deviation for head teachers' inspiration motivation, head teacher's individualized consideration, head teacher's intellectual stimulation, and Job satisfaction of teachers. The table that follows shows the mean and standard deviation of the variables.

Table 4: Mean and Standard Deviation of the Variables

Name of Variable	Mean	Std. Deviation
Head teachers' inspiration motivation	3.210	1.066
Head teacher's individualized consideration	4.095	.593
Head teacher's intellectual stimulation	4.250	.809
Job satisfaction of teachers	4.050	.441

Head teachers' Inspiration Motivation and Job satisfaction of Teachers

To assess head teachers' inspiration motivation and its relationship with job satisfaction of teachers in government aided primary schools in Central Division, Sheema Municipality, Sheema District., research question 1 needed to be answered. To answer the question; hypothesis 1, *"There is no significant relationship between head teachers' inspiration motivation and job satisfaction of teachers in government aided primary schools in Central Division, Sheema Municipality, Sheema District."* was tested at alpha-level, α = 0.05 with 98 degrees of freedom (df). In testing this relationship, a Pearson product-moment correlation coefficient was computed to assess the linear relationship between head teachers' inspiration motivation (M = 3.21, S.D = 1.066) and its relationship with job satisfaction of teachers in government aided primary schools in Central

Division, Sheema Municipality, Sheema District (M = 4.050, S. D = .441).

To test the hypothesis, questionnaire items 1-5 were combined to collect data on the variable, "head teachers' inspiration motivation" and correlating it with the job satisfaction of teachers in government aided primary schools in Central Division, Sheema Municipality, Sheema District. The strength of the relationship between head teachers' inspiration motivation and its relationship with job satisfaction of teachers in government aided primary schools in Central Division, Sheema Municipality, Sheema District was determined by computing Pearson r values and the p value at alpha level 0.05. The table that follows shows Pearson's correlation analysis of head teachers' inspiration motivation and its relationship with job satisfaction of teachers in government aided primary schools in Central Division, Sheema Municipality, Sheema District.

Table 5: Correlations

Correlations		Job satisfaction of teachers	head teachers' inspiration motivation
Job satisfaction of teachers	Pearson Correlation	1	.13
	Sig. (2-tailed)		.205
	N	100	100
head teachers' inspiration motivation	Pearson Correlation	.13	1
	Sig. (2-tailed)	.205	
	N	100	100

The analysis produced an *r* value of .13 and a P-value of 0.205. The P- value of 0.205 is greater than the alpha level of 0.05. The results displayed in the table indicated a weak, positive correlation between the two variables, (r (98) = -.13, p = .205). Since the p-value is greater than the alpha-level (p =.205 > α =

0.05), there was no significant relationship between head teachers' inspiration motivation and its relationship with job satisfaction of teachers in government aided primary schools in Central Division, Sheema Municipality, Sheema District, hence hypothesis 1 was retained.

Head teachers' Individualized Consideration and Job Satisfaction of Teachers

To assess head teachers' individualized consideration and its relationship with job satisfaction of teachers in government aided primary schools in Central Division, Sheema Municipality, Sheema District., hypothesis 1, *"There is no significant relationship between head teachers' individualized consideration and job satisfaction of teachers in government aided primary schools in Central Division, Sheema Municipality, Sheema District."* was tested at alpha-level, α = 0.05 with 98 degrees of freedom (df). In testing this relationship, a Pearson product-moment correlation coefficient was computed to assess the linear relationship between head teachers' individualized consideration (M = 4.10, S.D = .563) and its relationship with job satisfaction of teachers in government aided primary schools in Central Division, Sheema Municipality, Sheema District (M = 4.050, S. D = .441).

To test the hypothesis, questionnaire items 6-15 were combined to collect data on the variable, "head teachers' individualized consideration" and correlating it with the job satisfaction of teachers in government aided primary schools in Central Division, Sheema Municipality, Sheema District. The strength of the relationship between head teachers' individualized consideration and its relationship with job satisfaction of teachers in government aided primary schools in Central Division, Sheema Municipality, Sheema District was determined by computing Pearson r values and the p value at alpha level 0.05. The table that follows shows Pearson's correlation analysis of head teachers' inspiration motivation and its relationship with job satisfaction of teachers in government aided primary schools in Central Division, Sheema Municipality, Sheema District.

Table 6a: Correlations

		Job satisfaction of teachers	Head teacher's individualized consideration
Job satisfaction of teachers	Pearson Correlation	1	.11
	Sig. (2-tailed)		.289
	N	100	100
Head teacher's individualized consideration	Pearson Correlation	.11	1
	Sig. (2-tailed)	.289	
	N	100	100

The analysis produced an *r* value of .11 and a P-value of 0.289. The P- value of 0.289 is greater than the alpha level of 0.05. The results displayed in the table indicated a weak, positive correlation between the two variables, (r (98) = -.11, p = .289). Since the p-value is greater than the alpha-level (p =.205 > α = 0.05), there was no significant relationship between head teachers' individualized consideration and its relationship with job satisfaction of teachers in government aided primary schools in Central Division, Sheema Municipality, Sheema District, hence hypothesis 2 was retained.

Head teachers' Intellectual Stimulation and Job satisfaction of Teachers

To assess head teachers' intellectual Stimulation and its relationship with job satisfaction of teachers in government aided primary schools in Central Division, Sheema Municipality, Sheema District, hypothesis 3, *"There is no significant influence between head teachers' intellectual stimulation and job satisfaction of teachers in government aided primary schools in Central Division, Sheema Municipality, Sheema District"* was tested at alpha-level, α = 0.05 with 98 degrees of

freedom (df). In testing this relationship, a Pearson product-moment correlation coefficient was computed to assess the linear relationship between head teachers' inspiration motivation (M = 4.250, S.D = .809) and its relationship with job satisfaction of teachers in government aided primary schools in Central Division, Sheema Municipality, Sheema District (M = 4.050, S. D = .441).

To test the hypothesis, questionnaire items 15 -18 were combined to collect data on the variable, "head teachers' intellectual stimulation" and correlating it with the job satisfaction of teachers in government aided primary schools in Central Division, Sheema Municipality, Sheema District. The strength of the relationship between head teachers' intellectual stimulation and its relationship with job satisfaction of teachers in government aided primary schools in Central Division, Sheema Municipality, Sheema District was determined by computing Pearson r values and the p value at alpha level 0.05. The table that follows shows Pearson's correlation analysis of head teachers' inspiration motivation and its relationship with job satisfaction of teachers in

government aided primary schools in Central Division, Sheema Municipality, Sheema District.

Table 6b: Correlations

		Job satisfaction of teachers	Head teacher's intellectual stimulation
Job satisfaction of teachers	Pearson Correlation	1	.19
	Sig. (2-tailed)		.057
	N	100	100
Head teacher's intellectual stimulation	Pearson Correlation	.19	1
	Sig. (2-tailed)	.057	
	N	100	100

The analysis produced an *r* value of .19 and a P-value of 0.057. The P- value of 0.057 is greater than the alpha level of 0.05. The results displayed in the table indicated a weak, positive correlation between the two variables, (r (98) = -.19, p = .057). Since the p-value is greater than the alpha-level (p =.057 > α = 0.05), there was no significant relationship between head teachers' intellectual stimulation and its relationship with job satisfaction of teachers in government aided primary schools in Central Division, Sheema Municipality, Sheema District, hence hypothesis 3 was retained.

Multiple Regression Tests and Assumptions

Multiple linear regression is a statistical method used to model the relationship between two or more predictor variables and a response variable. When conducting multiple linear regression, several assumptions need to be met for the results to be valid. The following are the main assumptions made when conducting multiple regression: Normality, Linearity, Homoscedasticity, Multicollinearity.

Normality Assumption Test

The focal point of testing the normality assumption in multiple regression is scrutinizing the scattering of the residuals, which are the differences between the observed values and the values predicted by the regression model. If the residuals are not normally distributed, the results of hypothesis tests (like t-tests for individual coefficients) may not be valid. The figure that follows shows the results of the normality test.
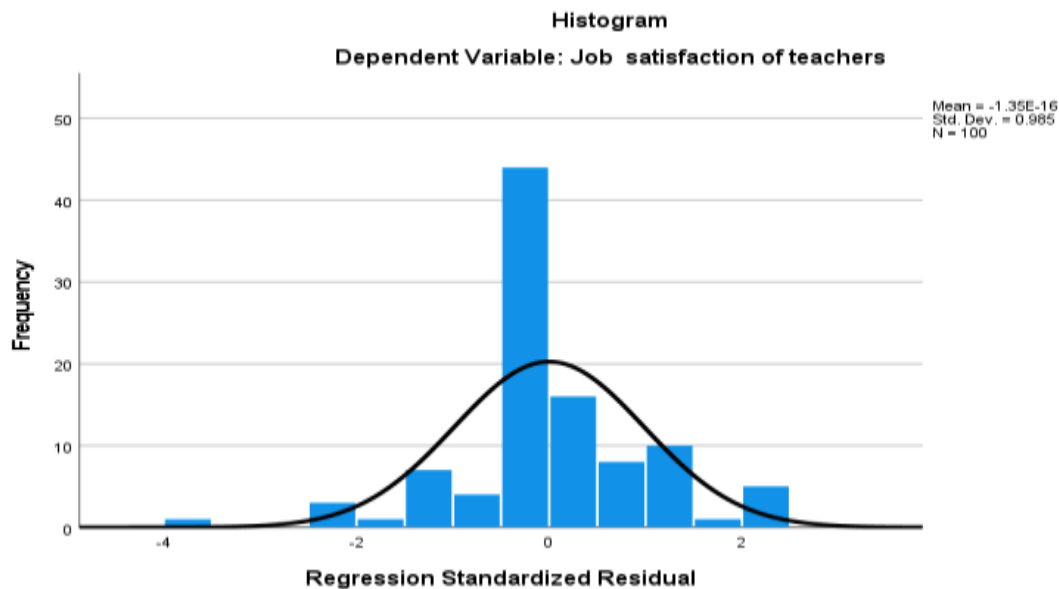

Figure 4: Dependent Variable-Turnover Interventions

Linearity Assumption Test

The relationship between the independent (predictor) variables and the dependent (response) variable should be linear. Linearity therefore refers to the presence of a straight-line relationship between the predictor and the response variables. Linearity can be checked by plotting the residuals the difference between observed and predicted values) against the fitted values. The figure that follows next shows the graph of fitted values (observed values) against the Residuals.
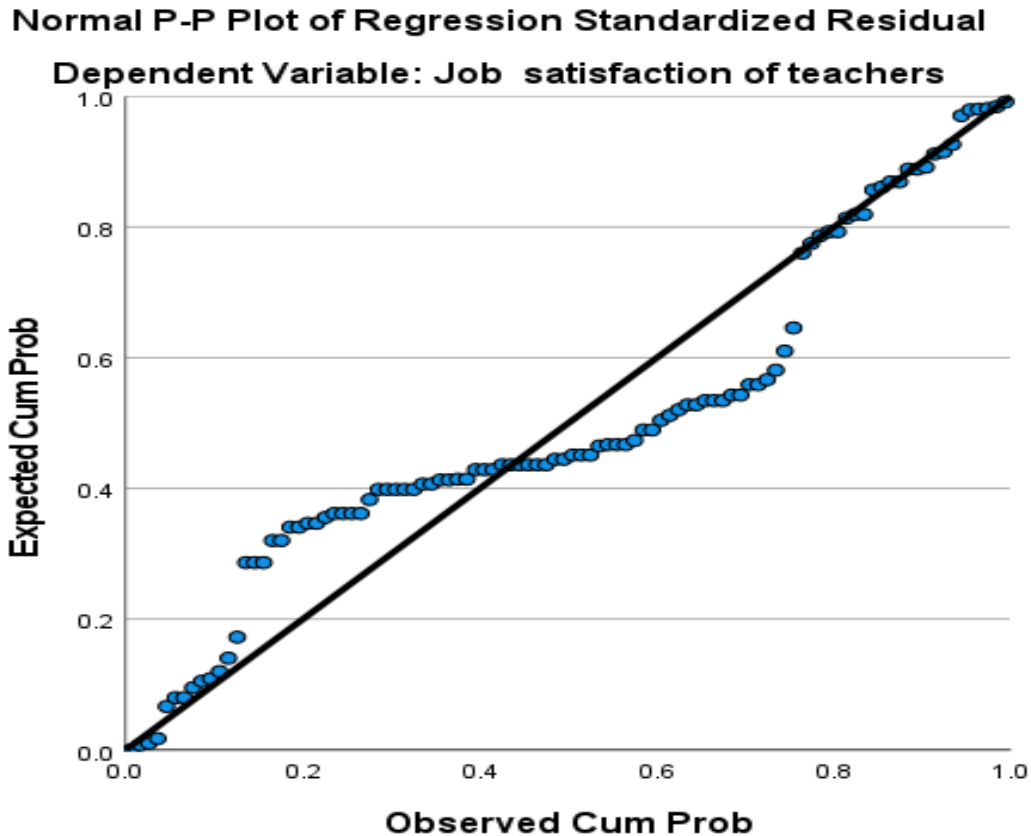
Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Job satisfaction of teachers

Figure 5: Normal P-P Plot of Regression Standardized Residual

Homoscedasticity Assumption Test

Homoscedasticity alludes to a state in which the variance of the residual, or error term, in a regression model is constant. The error term does not change a lot even when the value of the independent variable changes. Put in another way, the variance of the data points is roughly the same for all data points. This suggests a level of consistency and makes it easier to model and work with the data through regression; however, the lack of homoscedasticity may suggest that the regression model may need to include additional predictor variables to explain the performance of the dependent variable. The figure that follows represents scatterplot for homoscedasticity test.
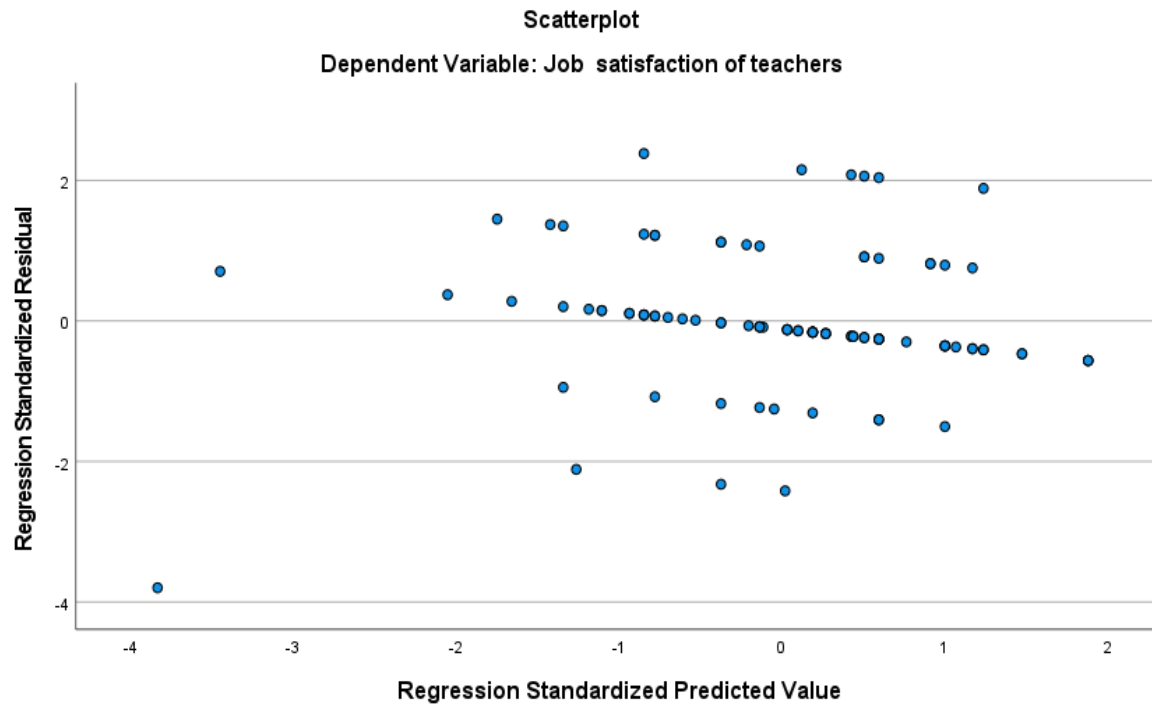
Figure 6: Homoscedasticity Assumption Test Scatter Plot

Multicollinearity Assumption Test

According to Daoud [33], multicollinearity is a violation of one of the basic assumptions for successful regression model assumptions. It appears when two or more independent variables in the regression model are correlated. A little bit of multicollinearity sometimes will cause a big problem but when it is moderate or high, then, it will be difficulty to solve [33]. Multicollinearity, or near-linear dependence, is a statistical phenomenon in which two or more predictors variables in a multiple regression model are highly correlated. To check for multicollinearity, one can use either the correlation coefficients or the variance inflation factor (VIF) [34]; [35]; [33].

To use the correlation coefficients, simply put all our independent variables into a correlation matrix and look for coefficients with magnitudes greater than 0.80 or higher would indicate strong correlation [15]. Alternatively, use VIF which was generated alongside coefficients in SPSS when running multiple regression [36]. According to Shrestha [37], a VIF value of 10 and above indicates a strong correlation while VIF of less than 10 indicates a weaker correlation. A VIF of less than 5 is the best outcome for testing multicollinearity as it indicates little to no correlation [38].

Table 7: Multicollinearity Test Result

Model		Unstandardized Coefficients		Standardized Coefficients	Collinearity Statistics
		B	Std. Error	Beta	VIF
1	(Constant)	3.287	.374		
	head teachers' inspiration motivation	.042	.043	.102	1.102
	Head teacher's individualized consideration	.049	.077	.066	1.104
	Head teacher's intellectual stimulation	.100	.054	.184	1.003

Relationship between head teachers' Inspiration motivation and Job Satisfaction

A multiple linear regression test was conducted on the data taking Teachers Job satisfaction as the

dependent variable verses other variables for Head teachers' inspiration motivation. The result of the test is given the following:

Table 8a: Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.6945[a]	.483	.134	.35801

The model summary indicates that only 48 % of teachers' job satisfaction can be explained by the independent variables. This can be confirmed by the

results of the Analysis of variance given in the table below.

Table 8b: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.084	5	.217	1.691	.144[b]
	Residual	12.048	94	.128		
	Total	13.132	99			

In the ANOVA table the F value is at 1.691 and Sig. = .144. This implies that there is no significant statistical difference hence we accept the null hypothesis that there is no relationship between head teachers' inspiration motivation and teachers job satisfaction.

Relationship between Head teachers' individualized influence and teacher job satisfaction

A multiple linear regression was performed on the data taking teachers' job satisfaction as the dependent variable and head teachers' individualized influence as independent variables:

The results are given in the following analysis:

Table 9a: Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.567[a]	.321	.002	.36378

The Model Summary obtained from the test indicate that 32.1% of the variability in teachers' job satisfaction can be explained by the independent variables. In the test for Analysis of variance (ANOVA), the values obtained for F and Sig are

respectively 1.023 and .431. We therefore conclude that there is no statistically significant between head teachers individualized influence and teachers' job satisfaction.

Table 9b: ANOVAᵃ

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.354	10	.135	1.023	.431ᵇ
	Residual	11.778	89	.132		
	Total	13.132	99			

a. Dependent Variable: Job Satisfaction level

Relationship between Head teachers Intellectual Stimulation and teachers' job satisfaction

To determine whether or not there was a relationship between Head teachers' Intellectual stimulation and teachers' job satisfaction, a multiple linear regression was conducted taking teachers job satisfaction as dependent variable and the other variables as independent. The results were also given the following tables.

Table 10a: Model Summaryᵇ

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.458ᵃ	.210	.185	.32877

In the Model Summary table, it can be observed that 21 % of the variability in teachers' job satisfaction can be explained by the independent variables of head teachers' intellectual stimulation. The test of analysis of variance given in the table below confirms presence of statistical significance difference between the head teacher's intellectual stimulation and teacher's job satisfaction. This is so because of the Sig.=0.000 value that is lower than 0.03 at 70% confidence interval.

Table 10b: ANOVAᵃ

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.756	3	.919	8.498	.000ᵇ
	Residual	10.376	96	.108		
	Total	13.132	99			

Head Teachers' Transformational Leadership and Teachers' Job Satisfaction in Government Aided Primary Schools in Sheema Municipality

Table 11: Head Teachers' Transformational Leadership Coefficients
Coefficientsᵃ

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.287	.374		8.780	.000
	head teachers' inspiration motivation	.042	.043	.102	.978	.331
	Head teacher's individualized Consideration	.049	.077	.066	.634	.528
	Head teacher's intellectual stimulation	.100	.054	.184	1.854	.067

In order to establish the contribution of each predictor variable (Head teachers' transformational leadership) to the variation in the response variable (Teachers' job satisfaction), regression analysis was carried and the results presented in table-. The general model equation from the results in the table-, that predicts teachers' job satisfaction based on head

teachers': inspirational motivation, individualized consideration, and intellectual stimulation is given as:

$$Y = 3.287 + .042X_1 + .049X_2 + .100X_3 + 0.05$$

Hypotheses:

H_{0_1} : There is no significant influence between head teachers' inspiration motivation and job satisfaction of teachers in government aided primary schools in central division, Sheema Municipality, Sheema District. (t(98)= -.978, p = .331 >.05) not significant, the null hypothesis 1 is thus retained. The interpretation of this is that one additional unit of teachers' inspiration motivation would cause a change of .042 or 4.2 %

H_{0_2}: There is no significant influence between head teachers' individualized consideration and job satisfaction of teachers in government aided primary schools in central division, Sheema Municipality, Sheema District. (t(73)= .634, p =.528 >.05) not significant, we retain the null hypothesis 2. The interpretation of this is that one additional unit of head teachers' individualized consideration would cause a change of .049 or 4.9 %

H_{0_3} : There is no significant influence between head teachers' intellectual stimulation and job satisfaction of teachers in government aided primary schools in central division, Sheema Municipality, Sheema District. (t(73)= 1.854, p = .067 > .05) is not significant, therefore the null hypotheses 3 is retained. The Indication of this result is that an increase of one unit in head teachers' intellectual stimulation causes an increase of .100 or 1 % in Teachers' job satisfaction.

DISCUSSION

Head Teachers' Inspiration Motivation Aspect and the Job Satisfaction of Teachers

A Pearson product-moment correlation coefficient was computed to assess the linear relationship between head teachers' inspiration motivation aspect (M = 3.21, S.D = 1.066) and its relationship with the teachers' job satisfaction in government- aided primary schools in Central Division, Sheema Municipality, Sheema District (M = 4.05, S. D = .441).

The strength of the relationship between head teachers' inspiration motivation and its relationship with job satisfaction of teachers in government- aided primary schools in Central Division, Sheema Municipality, Sheema District was determined by computing Pearson r values and the p value at alpha level 0.05.

The analysis produced an *r* value of .13 and a P-value of 0.205. The P- value of 0.205 is greater than the alpha level of 0.05. The results displayed in the table indicated a weak, positive correlation between the two variables, (*r* (98) = -.13, *p* = .205). Since the p-value is greater than the alpha-level (p =.205 > α = 0.05), there was no significant relationship between head teachers' inspiration motivation and its relationship with job satisfaction of teachers in government aided primary schools in Central Division, Sheema Municipality, Sheema District, hence hypothesis 1 was retained.

Results from multiple regression carried out to establish the contribution of head teachers' inspiration motivation aspect to the changes in the teachers' job satisfaction produced R^2 = .194, meaning that the contribution of the variable to the response variable is only 19 %. This contribution was found to be statistically insignificant, thereby retaining the null hypotheses 2.

Head Teachers Individualized Consideration and the Job Satisfaction of Teachers

A Pearson product-moment correlation coefficient was computed to assess the linear relationship between head teachers individualized consideration (M = 4.08, S.D =.533) and its relationship with the teachers' job satisfaction in government aided primary schools in Central Division, Sheema Municipality, Sheema District (M = 4.095, S. D = .593).

The strength of the relationship between head teachers' individualized consideration and its relationship with job satisfaction of teachers in government aided primary schools in Central Division, Sheema Municipality, Sheema District was determined by computing Pearson r values and the p value at alpha level 0.05.

The analysis produced an *r* value of .11 and a P-value of 0.289. The P- value of 0.289 is greater than the alpha level of 0.05. The results displayed in the table indicated a weak, positive correlation between the two variables, (r (98) = -.11, p = .289). Since the p-value is greater than the alpha-level (p =.205 > α = 0.05), there was no significant relationship between head teachers' individualized consideration and its relationship with job satisfaction of teachers in government aided primary schools in Central Division, Sheema Municipality, Sheema District, hence hypothesis 2 was retained.

Results from multiple regression produce an R of .567[a] and R square value of .321. The model summary indicated that only 32 % of teachers' job satisfaction could be explained by the independent variable. This was confirmed by the results of the Analysis of variance, in which the F value was 1.023 and Sig. = .431. This implied that there was no significant statistical difference hence, the null hypothesis, "there is no relationship between head teachers' inspiration motivation and teachers' job satisfaction" was retained.

Head Teachers' Intellectual Stimulation Aspects and the Job Satisfaction of Teachers

A Pearson product-moment correlation coefficient was computed to assess the linear relationship between head teachers' intellectual stimulation aspects (M = 4.25, S.D = .809) and its relationship with the teachers' job satisfaction in government aided primary schools in Central Division, Sheema Municipality, Sheema District (M = 4.05, S. D = .441). The strength of the relationship between head teachers' inspiration motivation and its relationship with job satisfaction of teachers in government aided primary schools in Central Division, Sheema Municipality, Sheema District was determined by

computing Pearson r values and the p value at alpha level 0.05. The analysis produced an *r* value of .19 and a P-value of 0.057. The P- value of 0.057 is greater than the alpha level of 0.05. The results displayed in the table indicated a weak, positive correlation between the two variables, (r (98) = -.19, p = .057). Since the p-value is greater than the alpha-level (p =.057 > α = 0.05), there was no significant relationship between head teachers' intellectual stimulation and its relationship with job satisfaction of teachers in government aided primary schools in Central Division, Sheema Municipality, Sheema District, hence hypothesis 3 was retained.

Results from multiple regression produce an R of .458[a] and R square value of .21. The model summary indicated that only 21 % of teachers' job satisfaction could be explained by the independent variable. This was confirmed by the results of the Analysis of variance, in which the F value was 8.498 and Sig. = .000. This implied that there was no significant statistical difference hence, the null hypothesis, "there is no relationship between head teachers' intellectual stimulation and teachers' job satisfaction" was retained.

In order to establish the contribution of each predictor variable (head teachers' transformational leadership) to the variation in the response variable (teachers' job satisfaction), regression analysis was carried and the results presented in table-.

The general model equation that predicts head teachers' inspiration motivation aspect, head teachers individualized consideration, and head teachers' intellectual stimulation aspects influence the job satisfaction of teachers in government aided primary schools in Central Division, Sheema Municipality, Sheema District is given as: $Y = 3.287 + .042X_1 + .049X_2 + .100X_3 + .05$

CONCLUSION

The following conclusions were arrived at:

1. The contribution of head teachers inspirational motivation to the response variable was only 19 % and that there was no significant relationship between head teachers' inspiration motivation and teachers job satisfaction (r (98) = -.13, p = .205), hence, hypothesis 1 was retained.

2. Similarly, the contribution of head teachers' individualized consideration to the response variable was only 32 % and that there was no significant relationship between head teachers' individualized consideration and teachers job satisfaction (r (98) = -.11, p = .289), hence, hypothesis 2 was retained.

3. Regarding, head teachers' intellectual stimulation, this study established that only

21 % of the changes in the response variable was contributed by the predictor.

Recommendations

1. For the finding that there is an insignificant relationship between head teachers' inspirational motivation and job satisfaction of teachers:

   Recommendation: Investigate other leadership behaviors or school climate factors that may have a stronger influence on teacher job satisfaction. Explore ways for head teachers to provide more meaningful support and motivation to their teaching staff.

2. For the finding that head teachers' individualized consideration is not connected to job satisfaction of teachers:

Recommendation: Assess how head teachers are currently providing individualized support, and identify opportunities to improve personalized attention and recognition for teachers' unique needs and contributions. Consider training for head teachers on effective strategies for individualized consideration.

3. For the finding that head teachers' intellectual stimulation is not related to job satisfaction of teachers:
Recommendation: Examine the specific ways head teachers are engaging teachers in

intellectual discourse and problem-solving. Identify ways to foster a more stimulating and innovative school environment that challenges teachers professionally and encourages their growth and development.

Suggestions for Future Research

The predictor variables in this study contributed only 19 % of variations in the response variable. Other studies should explore the rest of the variables that contribute 81 % of the variations in the response variable.

LIST OF ACRONYMS

DES: Directorate of Education Standards
DFE: Department for Education
DIS: District Inspector of Schools
NAPTOS: National Professional Teachers Organization of South Africa
SESIL: Strengthening Education Systems for improved learning
SMCs: School Management Committees
UNESCO: United Nations Educational, Scientific and Cultural Organization

REFERENCES

[1]. Nakabugo, M. G (2008). Universal primary education for equal growth? The paradox of large Classes in Uganda. *Journal of International Cooperation in Education*, 11(1), 1-14.

[2]. Taylor, F. W. (1911). The principles of scientific management. Harper & Brothers.

[3]. Weber, M. (1947). The theory of social and economic organization (A. M. Henderson & T. Parsons, Trans.). Free Press

[4]. Lémaire, R. (1926). Le problème de la participation des travailleurs à la gestion des entreprises [The problem of workers' participation in the management of enterprises]. Revue Internationale du Travail, 14(1), 1-30.

[5]. Argyris, C. (1957). Personality and organization: The conflict between system and the individual. Harper & Brothers.

[6]. McGregor, D. (1960). The human side of enterprise. McGraw-Hill.

[7]. Allen, N., Grigsby, B., & Peter, M., (2015). Does leadership matter? Examining the relationship Among Transformational leadership styles, school climate, and student achievement. *International Journal of Educational Leadership Preparation, 10 (2)*, 1-22.

[8]. Tai, K., Omar, K., Mohamad S., & Khuan, B., (2017). Head Teachers change leadership Competencies and teacher attitudes toward

change: the mediating effects of teacher change beliefs. *International Journal of Leadership in Education: Theory and Practice*, 1-20.

[9]. Mangin, J.A., Fernando, M., Gabriela, T., & Jean-Pierre, L. (2014). The influence of Transformational leadership and organizational identification on entrepreneurship. *International Entrepreneurship and Management Journal, 10 (1)*, 103–119.

[10]. Templeton, R., Hammett, R., Low, G., Arrambide, M., &Willis, K. (2017). Headteachers Leadership framework for enhancing teacher practice through coaching with emotional Intelligence. *The International Journal of Transformative Emotional Intelligence: Research, Theory, and Practice*, 93-103.

[11]. Ibrahim, N., Shiratuddin, M. F., & Wong, K. W. (2022). Instruments for measuring the influence of visual persuasion: validity and reliability tests. European Journal of Social Science Education and Research, 9(1), 44-68.

[12]. Ndinga, B. A. (2017). *Teachers and Students' Perceptions of Head Teachers' Transformational Leadership and Students' Academic Achievement in Public Secondary Schools of Nairobi County, Kenya, (Doctoral dissertation) Catholic University of Eastern Africa (CUEA), Kenya.* Nairobi.

[13]. Akkuzu, N. (2014). The role of different types of feedback in the reciprocal interaction of teaching Performance and self-efficacy belief. *Australian Journal of teacher Education,*

[14]. Cemboi, S.T., (2014). Teachers' perception of the Head Teachers' Instructional leadership Practices and their influence on the students' academic achievement in public secondary schools, Master thesis. University of Nairobi, Kenya. New Delhi: Sage Publication.

[15]. Wahyudi, W. (2018). The influence of job satisfaction and work experience on lecturer Performance of Pamulang University. *Scientific Journal of Reflection: Economic, Accounting, Management and Business, 1*(2), 221-230.

[16]. Sheema District Education Officer's Report (2022)

[17]. Bass, B. M., & Riggio, R. E. (2006). Transformational leadership (2nd ed.). Routledge.

[18]. Leithwood, K., & Jantzi, D. (2006). Transformational school leadership for large-scale reform: Effects on students, teachers, and their classroom practices. School Effectiveness and School Improvement, 17(2), 201-227.

[19]. Schober, P., Boer, C., & Schwarte, L. A. (2018). Correlation coefficients: appropriate use and Interpretation. *Anesthesia & analgesia, 126*(5), 1763-1768.

[20]. Babbie, E. (2020). The practice of social research (14th ed.). Cengage Learning.

[21]. Gray, J. R., Grove, S. K., and Sutherland, S. (2017). The Practice of Nursing Research: Appraisal, Synthesis, and Generation of Evidence, (8th Ed.). St' Louis Missouri: Elsevier.

[22]. Mohajan, H. K. (2018). Qualitative research methodology in social sciences and related subjects. Journal of economic development, environment and people, 7(1), 23-48.

[23]. Mohebbi, B., Sadeghipour, P., Noohi, F., Maleki, M., Peighambari, M. M., Hosseini, S., & Ghadrdoost, B. (2022). Reliability and validity of a satisfaction questionnaire on virtual education in the coronavirus disease 2019 pandemic era aimed at cardiology faculty members. Journal of Education and Health Promotion, 11(1), 45.

[24]. Vakili, M. M., & Jahangiri, N. (2018). Content validity and reliability of the measurement tools in Educational, behavioral, and health

sciences research. Journal of Medical Education Development, 10(28), 106-118.

[25]. Korstjens, I., & Moser, A. (2018). Series: Practical guidance to qualitative research. Part 4: Trustworthiness and publishing. European Journal of General Practice, 24(1), 120-124.

[26]. Timmermans, S., & Tavory, I. (2022). Data analysis in qualitative research: Theorizing with Abductive analysis. University of Chicago Press.

[27]. Cooper, H., Hedges, L. V., & Valentine, J. C. (Eds.). (2019). The handbook of research synthesis and meta-analysis. Russell Sage Foundation.

[28]. Williams, M. N., Grajales, C. A. G., & Kurkiewicz, D. (2019). Assumptions of multiple regression: Correcting two misconceptions. Practical Assessment, Research, and Evaluation, 18(1),11.

[29]. Chinazzo, G., Andersen, R. K., Azar, E., Barthelmes, V. M., Becchio, C., Belussi, L., & Wei, S. (2022). Quality criteria for multi-domain studies in the indoor environment: Critical review towards research guidelines and recommendations. Building and Environment, 109719.

[30]. Knief, U., & Forstmeier, W. (2021). Violating the normality assumption may be the lesser of two Evils. Behavior Research Methods, 53(6), 2576-2590.

[31]. Pietilä, A. M., Nurmi, S. M., Halkoaho, A., & Kyngäs, H. (2020). Qualitative research: Ethical Considerations. The application of content analysis in nursing science research, 49-69.

[32]. Mertler, C. A., Vannatta, R. A., & LaVenia, K. N. (2021). *Advanced and multivariate statistical Methods: Practical application and interpretation.* Routledge.

[33]. Daoud, J. I. (2017). Multicollinearity and regression analysis. In *Journal of Physics: Conference Series* (Vol. 949, No. 1, p. 012009). IOP Publishing.

[34]. Tay, R. (2017). Correlation, variance inflation and multicollinearity in regression model. *Journal of the Eastern Asia Society for Transportation Studies, 12,* 2006-2015.

[35]. Thompson, C. G., Kim, R. S., Aloe, A. M., & Becker, B. J. (2017). Extracting the variance Inflation Factor and other multicollinearity diagnostics from typical regression Results. *Basic and Applied Social Psychology, 39*(2), 81-90.

[36]. Alita, D., Putra, A. D., & Darwis, D. (2021). Analysis of classic assumption test and

multiple linear Regression coefficient test for employee structural office recommendation. *IJCCS (Indonesian Journal of Computing and Cybernetics Systems), 15(3),* 295-306.

[37]. Shrestha, N. (2020). Detecting multicollinearity in regression analysis. *American Journal of Applied Mathematics and Statistics, 8(2),* 39-42.

[38]. Johnston, R., Jones, K., & Manley, D. (2018). Confounding and collinearity in regression Analysis: A cautionary tale and an alternative procedure, illustrated by studies of British Voting behaviour. *Quality & Quantity, 52,* 1957-1976.