

# A Comparative Analysis of Selected Factors Influencing Teacher Productivity in Public Secondary Schools in Kesses and Baringo North Sub-Counties, Kenya

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## Abstract

Teacher productivity is a critical determinant of educational quality and student success in public secondary schools, yet Baringo North and Kesses sub-counties face notable challenges in this area, as evidenced by multiple reports of teacher underperformance in various sub-counties. This situation not only impairs the learning experiences of students but also undermines broader educational goals and national development initiatives. As the backbone of educational systems, teachers shape knowledge acquisition and significantly influence student outcomes. Higher teacher productivity is widely recognized to correlate with improved student learning achievements. However, numerous reports highlight instances of teacher underperformance in Baringo north and Kesses sub-counties. The study objective was to investigate the selected factors influencing teacher productivity. The theory which guided the study was the job demand resource theory framework. The study used the concurrent mixed method research design (QUANT + qual). The accessible population of the study was teachers, heads of departments, and principals of the selected schools in Kesses and Baringo North sub-counties. The researcher used Nassiuma's (2000) formula to get the sample size. A sample of 125 participants was selected using simple random sampling, and five key informants were selected purposively. The researcher's supervisors and experts from the Department of Educational Foundations assisted in validating the research instruments (questionnaire and interview schedule) by checking the research instrument against the study objectives. Questionnaire piloting was done in Moiben sub-county to test the reliability. A coefficient of .787 was obtained, indicating the reliability of the instruments. Questionnaires were administered to teachers and heads of departments, and key informant interviews (KII) were conducted among principals. Quantitative data was analysed using Statistical Package for Social Science (SPSS) software. Descriptive statistics (percentages and frequencies) and inferential statistics (simple linear regression) were used, while qualitative data was analysed using QDA Miner software. A simple regression analysis was performed to determine the influence of selected parameters on teacher productivity. The results obtained were  $Y=4.199-.049$ . From the regression model, for every unit change in selected factors, teacher productivity changes by  $-.0449$ . This shows that increased selected factors lead to decreased teacher productivity. The results were  $Y=1.590+.666$ . From the regression model, for every unit change in the factors affecting teacher productivity teacher productivity changes by  $.666$ s. The study recommends that the Ministry of Education should work to mitigate the factors affecting teacher productivity in both areas. This will significantly contribute to improving the productivity of teachers.

**Keywords:** Teacher productivity, effectiveness, efficiency, student academic achievement, selected factors.

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## INTRODUCTION

Teachers play an essential role in education, most especially in the lives of the students they teach in the classroom. What defines a teacher is his/her ability to teach students and a positive influence on them. Modebelu, Eya and Obunadike (2016) defined teachers as individuals trained specifically to impact knowledge

and skills to children, youth and adults to enable them to develop healthy attitudes and live in harmony with other people.

Teacher productivity is essential in that it will impact students' academic quality and morale. If the teacher's productivity is high, the student's learning

achievement will increase. This means that teacher productivity has a role in producing quality graduates from an academic and moral perspective to compete in this globalization era (Putra & Ahyani, 2021).

The UN and UNESCO have recognized the importance of addressing various factors influencing teacher productivity. These factors include teaching methods, access to resources and support, motivation and job satisfaction, collaboration among colleagues, and continuous professional development opportunities (UN, 2020).

Bhadoriya (2022) notes that the satisfaction and productivity of teachers working in higher education institutions have greatly been affected by COVID-19 because teachers have to change their teaching style, and it is hard to cope with modern technologies. Online teaching and learning necessitate a specific level of Pedagogical Content Knowledge (PCK) primarily concerned with developing and arranging for better learning experiences and building a unique learning environment with technology.

The comparative study in South Korea and South Africa by Engelbrecht (2016) revealed the undeniable influence of teachers on learners' performance. It highlighted that South Korea, with its oversupply of teachers and stringent employment examinations, exhibits higher teacher productivity compared to South Africa, which faces significant teacher shortages and lacks essential teaching resources.

According to El-Gohany and Aziz (2014), the most important factors affecting labour (teachers inclusive) productivity in Egypt are work experience, incentives, the materials available and handling with ease, leadership and management efficiency, and the efficiency of the supervision work. To stakeholders, teaching productivity in secondary schools is an issue of concern, especially with the dwindling academic performance seen in students who obtained credit level passes in subjects like English and mathematics, which is often recorded below 50%. This is partly attributed to the inadequate teaching staff and single-teacher subject-based method of subject allocation that made teachers committed to autonomous teaching subjects and less involved in team teaching. This appears to be inherent in conservative ideas that are less innovative and less academically rewarding to students (Ayeni & Fakunle, 2022).

In Uganda, a study by Nannozi (2009) found that recruitment policies were necessary but not significant in improving teacher productivity. On the other hand, teacher training, development, and staffing policies were essential in improving the productivity of secondary school teachers. In Kenya, Onyango *et al.*, (2020) asserted that teacher productivity is a crucial concern, with students obtaining below 32.23%, 15.41%,

and 11.37% getting C+ grades in 2015, 2016, and 2017 respectively. However, the transition rate to universities is relatively low, with Kisumu County being below expectation with 20.12%, 13.42%, and 12.54% students in 2015, 2016, and 2017 respectively.

In Uasin-Gishu County, the overall attrition of teachers has resulted in a significant shortage in public secondary schools. This issue has been exacerbated by the proliferation of universities in the region and the introduction of school-based programs, which have prompted many teachers to pursue career development opportunities elsewhere in search of better prospects (Onsimu, 2014).

Masinde and Yatich (2024) conducted a study on the correlation between remuneration and the productivity of non-teaching staff in public secondary schools in Baringo Central sub-county, Kenya ( $r = 0.531$ ;  $p < 0.05$ ). This implies that remuneration influenced the productivity of non-teaching staff in public secondary schools in Baringo Central sub-county, Kenya. The study indicates a moderate positive and statistically significant correlation between communication and productivity of non-teaching staff in public secondary schools in Baringo Central sub-county, Kenya ( $r = 0.591$ ;  $p < 0.05$ ). This implies that communication positively influenced the productivity of non-teaching staff in public secondary schools in Baringo Central sub-county, Kenya.

In Baringo North it was established that teacher harassment, lack of adequate instructional materials, poor planning, and irregular visits were some of the challenges that affected the delivery of quality assurance and standard processes (Chepkuto, 2020)

This study seeks to provide a holistic understanding of the factors influencing teacher productivity both Kesses and Baringo North.

## Objective of the Study

**This study was guided by the following objective:**

- i. To establish the influence of selected factors on teacher productivity among public secondary schools in Kesses and Baringo North sub-counties

## LITERATURE REVIEW

### Factors affecting teacher productivity

#### 1.Environment

Baharuddin (2021) found that a conducive working environment significantly enhances teachers' performance at MTS Madani Pao-Pao, resulting in higher productivity that positively impacts student learning. Similarly, Abiodun-Oyebanji (2019) identified a positive relationship between physical working conditions and teacher productivity, indicating that improved conditions lead to enhanced performance. Lucky and Chika (2018) emphasized that adequate lighting, comfortable temperatures, and spacious

classrooms contribute to teacher comfort and reduce distractions, further supporting productivity in secondary schools in Port-Harcourt.

In Tanzania, improving teachers' working and living conditions is a key objective of the Education for All initiative (UNESCO, 2015); however, recent studies show that these conditions have not improved significantly in public secondary schools (Myeya & Rupia, 2022). In Kenya, poor working conditions were reported as the reason for 59% of teachers leaving the profession (Mukuni, 2013).

## 2. Leadership

Guo-Hua and Amankah (2020) studied the influence of headmaster leadership styles on school performance and found that although autocratic leadership can yield short-term benefits, a democratic approach is generally more effective overall. Their research highlighted that participative leadership tends to produce the most favorable long-term outcomes for staff, emphasizing the importance of collaborative decision-making in educational settings.

Similarly, Shamaki (2015) focused on work productivity in Nigeria, revealing that the democratic leadership style significantly boosts teachers' job productivity compared to autocratic leadership, especially in areas such as staff discipline, relationships, problem-solving, and job satisfaction. Additionally, Wachira *et al.*, (2017) examined the effects of principals' leadership styles on teachers' job performance in public secondary schools in Kieni West Sub County and observed that while principals utilize a range of leadership styles, supportive leadership emerged as the most frequently practiced approach, further underlining the importance of supportive environments in fostering teacher performance.

## 3. Stress

Donald *et al.*, (2005) studied the on-work environment, stress and productivity; the study involved different companies where 16001 workers took part in the study in the UK. Data were collected using a self-administered asset questionnaire. Findings indicate that psychological well-being plays a significant role in productivity.

Yusuf *et al.*, (2015) posit that most primary school teachers are stressed on the job, which negatively impacts their productivity. The study revealed that lack of job satisfaction and inadequate school facilities are significant causes of stress among primary school teachers. The study also revealed that stress has negative impacts on teachers' productivity.

Wangui *et al.*, (2013) postulate on the effects of work-related stress on teachers' performance in public secondary schools in Kenya. The study concluded that teacher performance in public secondary schools had a

significant negative relationship with work-related stress and studied the impact of workplace stress on head teachers, stakeholders, and families are the source of stress head teachers, and how stress affected other teachers and school performance.

## 4. Absenteeism

Utami and Suljpto (2019) analysed the effect of absenteeism on teacher work productivity. This research showed a negative effect of absenteeism on teacher work productivity in senior high schools, with values  $r = -0.427$  and  $p = -0.250$ . However, from all absenteeism indicators, it was found that the indicator of failure in completing the task is based on the schedule, which plays the most role in the absenteeism variable (34.14%) in influencing teacher work productivity.

Harini and Utami (2019) note that job satisfaction has a positive effect on teacher work productivity, and absenteeism has a direct effect on work productivity demonstrating a positive direct relationship; as teachers experience greater job satisfaction, their productivity levels also rise. Conversely, absenteeism negatively impacts work productivity, as teachers who are frequently absent contribute less to the educational environment, indicating that reduced absenteeism is associated with increased productivity.

Wambua (2015) alludes to the factors influencing teachers' absenteeism in public primary schools. The study shows that a teacher's marital status affects how a teacher reports to work, and their education level influences how often they report to work. The study also showed that factors like gender, length of a teacher's service in school, income level, age, and teaching experience did not influence how often they reported working to a greater degree.

## 5. Transfer

Othuon *et al.*, (2012) investigated how teacher transfer requests can be minimised. The study revealed that teacher transfer requests could be reduced if transport and communication to schools were improved; electricity and houses were made available to teachers; teachers employed from the locality and posted next to their families, class sizes were reduced, teacher induction and mentoring programs encouraged, retention bonuses instituted and teachers involved in decision making at school level.

Edabu *et al.*, (2020) study on the influence of teacher transfers on their productivity in public secondary schools in Eldoret West Sub-County, Kenya, the findings were statistically significant and thus indicate a significant influence of teacher transfers on their productivity in public secondary schools in Eldoret West Sub- County, Kenya

## METHODOLOGY

The study employed a concurrent mixed-methods research design that combined quantitative data collected through surveys and qualitative data collected through interviews to explore teacher productivity and educational quality among public secondary school teachers with over three years of experience. A sample of 125 teachers and heads of departments were selected through simple random sampling, while 5 principals were purposively chosen as key informants. Research instruments included questionnaires for teachers and heads of departments, along with structured interviews for principals. Validity was addressed through expert refinement of the instruments and content validity was ensured by aligning questionnaire items with the research objectives, reliability was established with a Cronbach's alpha coefficient of .787, indicating a satisfactory level of internal consistency for the

measurement instrument used in the study. Quantitative data were analyzed using SPSS for descriptive and inferential statistics, and qualitative data were examined with QDA Miner software to identify themes, ultimately providing a comprehensive understanding of the factors influencing teacher productivity.

## RESULTS AND DISCUSSION

### Regression Analysis

#### How do the selected factors influence teachers' productivity in public secondary schools in Kesses and Baringo North sub-counties?

A simple regression analysis was performed to determine the influence of selected parameters on teacher productivity. The participants were asked to indicate whether or not certain factors influenced teacher productivity. Table 1 shows how certain factors influence teacher productivity.

**Table 1: Factors affecting teacher productivity**

R	R Square	Adjusted R Square	Std. Error of the Estimate
.058	.003	-.080	.53118

Table 1 displays 'R' as + 0.003 and adjusted R-squared as -0.080, which is low; -the variance in selected factors explains 8% of the variance in the teacher productivity. Adjusted R-squared is used to refer to sampled data. Adjusted R-squared, a modified version of R-squared, adds precision and reliability by considering

the impact of additional independent variables that tend to skew the results of R-squared measurements (Algina *et al.*, 2007). This implies that strategies must be implemented to mitigate the effects of the selected factors on teacher productivity.

**Table 2: ANOVA Results for the Regression model of selected factors and teacher productivity**

Model	Sum of Squares	Df	Mean Square	f-ratio	p-value
Regression	0.11	1	0.11	0.040	.844
Residual	3.386	12	0.282		
<b>Total</b>	<b>3.397</b>	<b>13</b>			

The ANOVA Table 2 shows that the regression model between selected factors and teacher productivity was significant (it indicates the goodness of fit for the regression model established between dependent and

independent variables). F statistic of 0.40 indicated that the overall model was significant as this was further supported by a probability value of .844, which is less than .05.

**Table 3: Regression Coefficients for selected factors on teacher productivity**

Scale	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t-value	p-value
Constant	4.199	1.082		3.883	.002
Selected factors	-0.049	0.243	0.058	0.201	.844

The regression analysis indicates a negative and significant relationship between selected factors and teacher productivity, represented by the model  $Y = 4.199 - 0.049X$ . This suggests that for each unit change in the selected factors, teacher productivity decreases by 0.0449. The findings highlight the critical importance of environmental conditions in shaping teacher productivity. A conducive working environment is characterized by adequate resources, a supportive school culture, well-maintained facilities, and minimal distractions can enhance teacher morale and

effectiveness. Conversely, an environment marked by disorganization, insufficient resources, or high levels of disruption can hinder teachers' focus and job satisfaction. As one interviewee noted, "Teachers are more likely to excel in an environment where they feel valued, respected, and supported," (KII\_3\_M\_K) underscoring the necessity for a nurturing physical and emotional environment to optimize productivity.

Leadership also plays a pivotal role in influencing teacher productivity. Effective leadership



that offers clear direction, support, and motivation fosters collaboration, innovation, and professional growth. In contrast, ineffective leadership can lead to confusion and low morale among staff. As articulated by a participant, "Leadership promotes a positive and supportive work environment," (KII\_1\_F\_K), highlighting the critical role of leadership in creating an empowering school culture.

High levels of stress stemming from excessive workloads, challenging student behavior, and pressure to meet academic standards can lead to burnout and decreased motivation. This was encapsulated in the statement, "Stress among teachers creates a detrimental cycle that undermines both their productivity and well-being," (KII\_3\_M\_K). Additionally, absenteeism disrupts instructional continuity and increases burdens on remaining staff, while frequent teacher transfers can negatively affect established routines and relationships, further impacting productivity.

Supporting these qualitative findings, Harsonet *et al.*, (2023) found that leadership style, teacher motivation, and physical work environment all significantly affect teacher performance. Similarly, findings by Kanya *et al.*, (2021) highlighted family financial stress as a significant factor affecting teacher productivity, emphasizing personal struggles that can impact job performance.

In alignment with these studies, Korir (2017) identified remuneration as a crucial factor influencing teachers' job performance, indicating that economic conditions play a critical role in educators' ability to perform effectively. Ultimately, the findings underscore the multifaceted challenges faced by teachers and the importance of addressing both environmental and organizational factors to enhance productivity in public secondary schools. The study findings affirm Paz's (2021) findings in his study on "Factors Affecting Teachers' Performance in Public Elementary Schools." The study's findings indicated that the contributing factors in teaching performance, such as person-related, school-related, learner-related, and community-related factors, correlated to the level of teachers' performance in terms of the five key result areas that significantly impacted teachers' teaching performance.

## CONCLUSION AND RECOMMENDATION

### Conclusion

The analysis of factors affecting teacher productivity in public secondary schools in Kesses and Baringo North reveals a negative relationship between environmental conditions, leadership effectiveness, personal stressors, absenteeism and transfers. Insufficient resources, unsupportive leadership, and high stress levels contribute to reduced teacher performance and job satisfaction. Qualitative data emphasize the importance of a conducive work environment and effective leadership for fostering motivation and

collaboration. High absenteeism disrupts instruction and burdens remaining staff, while frequent transfers create instability that hampers routines and relationships. These findings align with existing literature, highlighting that improving resources, leadership quality, and addressing personal challenges are vital for enhancing educational outcomes and teacher effectiveness, necessitating strategic interventions to optimize productivity and overall educational quality.

### Recommendation

- i. The study's findings showed a low negative correlation between selected factors and teacher productivity. Therefore, the study recommends that the Ministry of Education implement strategies aimed at mitigating the effects of the selected factors on teacher productivity.

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