
High Turnover of Male Science Teachers Over Female Science Teachers in Public Secondary Schools in Ekiti State, Nigeria

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ABSTRACT: *This study sought to investigate the disparity in turnover rates between male and female science teachers in public secondary schools in Ekiti State, Nigeria, and examined differences in their conditions of service. Utilizing an ex-post facto research design, data were collected from 712 science teachers and 112 principals from a selection of 112 schools, drawn from a population of 2,950 science teachers and 205 principals. A specially designed inventory, "Science Teachers Turnover Inventory (STTI)," was employed for data collection. The study found a significant difference in turnover rates between male and female science teachers. The calculated t-value (t-cal) of 5.771 exceeded the critical t-value (t-table) of 1.96 at a 0.05 level of significance, leading to the rejection of the first null hypothesis. However, the analysis revealed no significant difference in the conditions of service for male and female science teachers. The t-cal (1.02) was less than the t-table (1.96) at a 0.05 level of significance, leading to the retention of the null hypothesis. The results indicate a need for policy changes to address the high*

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turnover of male science teachers in Ekiti State's public secondary schools, potentially impacting the quality of science education. Recommendations include encouraging male science teachers through special allowances and funding in-service training programs to improve their retention and professional development.

KEYWORDS: high turnover, science teachers, gender, secondary school

INTRODUCTION

Within the domain of education, the significance of science teachers is paramount in moulding the trajectory of a nation's destiny. The provision of a high-quality science education is vital in adequately equipping the upcoming generation to effectively confront the difficulties posed by a progressively intricate and technology-oriented global landscape. The phenomenon of turnover, when considering science teachers, encompasses various dimensions that have a substantial influence on the stability and calibre of science education within the academic domain. Within this particular framework, turnover refers to the act of science teachers leaving their existing positions, which might transpire due to a range of factors such as resignation, retirement, or the pursuit of alternate career prospects. The act of leaving results in openings within the teaching profession, which in turn requires the process of hiring and instructing new educators to occupy these roles (Abdul-Kareem, et al., 2017).

The phenomenon of teacher turnover has a detrimental impact on the consistency of educational experiences within the classroom setting. Science educators play a crucial role in the dissemination of curriculum material and the cultivation of students' comprehension of complex scientific principles. Elevated rates of employee turnover can lead to irregularities in the delivery of education, so impeding the academic advancement of pupils. Furthermore, the departure of seasoned and proficient science educators may result in the depletion of vital knowledge and pedagogical approaches within the educational establishment. Experienced scientific educators generally possess a substantial amount of knowledge in their respective subject areas and employ pedagogical strategies that have proven to be efficient, resulting in significant advantages for students (Orubuloye, 2011). The absence of such specialised knowledge can result in adverse effects on the overall standard of science education.

Moreover, the occurrence of frequent teacher turnover imposes a substantial burden on school budgets and administrative resources. The process of recruiting and educating new science instructors necessitates significant investments in terms of both time and cash, hence reallocating resources from other imperative educational requirements. Moreover, elevated rates of employee turnover can lead to a perception of instability within the educational setting. The establishment of enduring relationships between students and instructors can be a significant challenge, leading to serious repercussions for faculty cohesion and subsequently impacting the whole school culture. Significantly, a substantial body of research has demonstrated a positive association between

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teacher turnover and diminished academic performance among students (Orubuloye & Akinwumi, 2012). The aforementioned correlation also applies to the domain of scientific education, as the provision of continuous and effective instruction is crucial for students to acquire the requisite knowledge and skills that are vital for their future academic achievements and professional advancements.

Furthermore, it is frequently observed that gender discrepancies exert a substantial influence on the rates of turnover within the population of scientific teachers (Abdul-Kareem, et al., 2017). The comprehension and resolution of the disparate attrition rates observed among male and female scientific educators are of paramount importance in the pursuit of gender parity within the discipline. This endeavour is essential to guaranteeing equitable opportunities for male and female students alike, as it enables them to benefit from a broad range of role models. The gender makeup of scientific professors in public secondary schools in Ekiti State, Nigeria, has garnered considerable attention, similar to other places. An intriguing phenomenon that has been apparent in recent times is the notable disparity in attrition rates between male and female science educators. The primary objective of this research is to examine the occurrence of elevated rates of attrition among male science educators in comparison to their female colleagues within public secondary schools throughout Ekiti State. The recruitment and retention of science instructors, particularly within the public education sector, is a matter of great importance for educational policymakers and administrators. According to Boyd et al. (2015), the efficacy of science education programmes is contingent upon not just the quantity of science teachers, but also the stability and contentment of the teaching profession. It is crucial to comprehend the factors contributing to the elevated attrition rate among male science instructors in Ekiti State, and to juxtapose this phenomenon with the turnover experienced by their female counterparts. This understanding is essential in order to uphold the uninterrupted provision of high-quality science education.

Numerous studies conducted globally have repeatedly demonstrated the existence of gender disparities within the teaching profession, wherein a higher proportion of female teachers compared to male teachers has been seen (Abdul-Kareem, et al., 2017; Ingersoll, 2013; Orubuloye, 2011). In the context of Ekiti State, it is evident that a notable imbalance exists, namely in the public school system, where there is a considerable overrepresentation of female scientific teachers. Nevertheless, the disparity in gender becomes further evident when analysing the rates of attrition among scientific educators of different sexes. The issue of a significant rate of attrition among male scientific teachers is a matter of worry, since it has potential ramifications for the overall standard of science education in Ekiti State. The causes for male science teacher turnover can differ, but there are certain recurring variables that contribute to this phenomenon. These factors encompass the scarcity of career advancement prospects, discontentment with working circumstances, and the pursuit of more lucrative possibilities in the private sector (Abdul-Kareem, et al., 2017). Comprehending these particular factors is essential for the implementation of effective retention tactics.

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There exist disparities in the terms of employment for male and female science educators, resulting in divergent encounters and degrees of contentment. This study aims to investigate the aforementioned inequalities, encompassing factors such as employment hours, class assignments, and access to professional development options. Abdul-Kareem et al. (2017) have previously emphasised the role of discrepancies in these domains in influencing employee turnover. The attrition of science educators, particularly male educators who can potentially function as influential figures, can significantly affect the calibre of science instruction. The occurrence of high turnover among teachers has been found to have negative effects on the consistency of instructional practises and can lead to a sense of instability within the classroom environment. This, in turn, can have adverse consequences on the academic achievements of students (Ingersoll & Strong, 2011). In order to ensure optimal science education for children, it is imperative to acknowledge and confront these problems. The main purpose of the study was to find out if there was a difference between male science teachers' turnover and that of female science teachers' turnover. It also examined the difference between the conditions of service of male science and female science teachers.

Research Hypotheses

Ho1: There is no significant difference between the turnover of male and female science teachers.

Ho2: There is no significant difference between the conditions of service of male and female science teachers.

METHODOLOGY

This study adopted an ex-post facto research design. It was an ex-post facto research because it was an after fact study involving the collection of existing data. The population of the study involved all the 2,950 science teachers and 205 principals of the 205 public secondary schools in Ekiti state. The sample for the study was selected from 112 schools selected drawn from the population. Out of the 2,950 teachers in the schools, sample of 712 science teachers were taken including the 112 principals. The method of selection of the sample was by using stratified and simple random sampling technique. The instrument used for the collection of data for this study was an inventory tagged "Science Teachers Turnover Inventory (STTI)" to be completed by the science teachers and the principals of the sampled schools. The inventory consisted of two sections, sections A and B. Section A consisted of the demographic data, and it sought information on the names of schools, local government areas among others, while section B elicited information on the staffing situation and information on science teachers' turnover in the schools between 2017 and 2022.

The instrument was given to experts in Test and Measurement for face and content validity. In doing this, the experts matched each item of the instrument with the research objectives in order to determine whether the instrument actually measure what it was supposed to measure. Their observations were used to correct the items of the instruments before they were administered to

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the respondents. The researchers visited each of the schools selected personally to administer the instrument. The data collected for the study were analyzed using t-test statistics. The two null hypotheses raised were tested at 0.05 level of significance.

Hypotheses Testing

Ho1: There is no significant difference between the turnover of male science teachers and that of female science teachers in Ekiti state, Nigeria.

Table 1: t-test summary of the rate of turnover of male and female science teachers

Variables	N	M	SD	Df	t-cal	t-tab
Male Science Teachers	112	7.38	3.54	222	5.771	1.96
Female Science Teachers	112	3.66	2.60			

$P < 0.05$

The test analysis showed that t-cal (5.771) was greater than t-table (1.96) at 0.05 level of significant. Therefore, the null hypothesis was rejected. This shows that there was a significant difference between the male science teachers' turnover and that of female science teachers' turnover secondary schools in Ekiti state. The mean value for science teachers (7.38) was greater than the mean value for female science teachers (3.66) indicating that male science teachers left the teaching service at a higher rate than the female science teachers.

Ho2: There is no significant difference between the conditions of service for male science teachers and that of female science teachers.

Table 2: t-test summary of conditions of service for male and female science teachers

Variables	N	M	SD	df	t-cal	t-tab
Male Science Teachers	112	60.21	12.50	222	1.02	1.96
Female Science Teachers	112	58.64	10.42			

NS: Not significant

The t-test analysis showed that t-cal (1.02) is was lesser than t-table (1.96) at 0.05 level of significant. Therefore, the null hypothesis was not rejected. This shows there was no significant difference between the conditions of service for male and female science teachers in public secondary schools in Ekiti state.

DISCUSSION

The test analysis revealed that the calculated t-value (t-cal) was substantially greater than the critical t-value (t-table) at a 0.05 level of significance. This statistical result led to the rejection of the null hypothesis, indicating a significant difference in turnover rates between male and female science teachers in Ekiti State. The finding aligns with research in education and the broader

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workforce literature that has consistently shown that gender disparities in the teaching profession can result in differential turnover (Ingersoll, 2003; Ingersoll & Strong, 2011). The mean value for male science teachers (7.38) was notably higher than the mean value for female science teachers (3.66), suggesting that male science teachers left the teaching service at a higher rate than their female counterparts. This result is consistent with previous studies that have identified factors contributing to higher turnover among male teachers, including limited career advancement opportunities, job dissatisfaction, and the pursuit of better-paying positions in the private sector (Boyd et al., 2015; Orubuloye, 2011). In the context of science education, it is crucial to understand why male science teachers are leaving their positions at a higher rate, as their departure may have implications for the quality and continuity of science instruction.

These findings underscore the importance of addressing gender disparities and promoting gender equity within the teaching profession. Gender equity is not only essential for achieving a diverse and balanced representation of male and female educators but also for providing students with a wide range of role models. Ensuring that both male and female science teachers have equitable opportunities, support, and working conditions is crucial for creating a more inclusive and effective educational environment (Abdul-Kareem et al., 2017).

The significant difference in turnover rates should inform educational policies and strategies aimed at retaining and attracting male science teachers. Understanding the specific factors that drive this higher turnover among male science educators is vital for addressing the issue effectively. Schools and educational authorities may need to consider targeted initiatives to improve working conditions, career development opportunities, and job satisfaction for male science teachers. This insight underscores the need for proactive measures to address the higher turnover among male science teachers, ultimately contributing to a more stable and gender-equitable science teaching workforce and ensuring the continuity of quality science education.

In table 2, the statistical analysis revealed that the calculated t-value (t-cal) was less than the critical t-value (t-table) at a 0.05 level of significance. As a result, the null hypothesis, which posited that there was no significant difference in the conditions of service for male and female science teachers, was not rejected. This finding suggests that, based on the data and analysis, there is no compelling evidence to support the presence of significant disparities in the working conditions and terms of employment for male and female science teachers in public secondary schools in Ekiti State. While the study found no significant difference in conditions of service, this result does not necessarily imply that gender equity and workforce equality have been achieved. It is essential to interpret these findings in the broader context of gender disparities in the teaching profession. Previous research has identified multiple aspects, including differences in job assignments, working hours, and access to professional development opportunities, which can affect the overall experience of male and female teachers (Abdul-Kareem et al., 2017).

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The lack of significant differences in conditions of service does not diminish the importance of continually assessing and addressing potential disparities in the workplace. Education authorities and school administrators should remain vigilant in monitoring and addressing any subtle or latent gender-based disparities in the teaching profession. Policies and practices that promote gender equity, such as equal opportunities for career advancement and professional development, should still be prioritized.

CONCLUSION

The high turnover rate of male science teachers found in this study in the public secondary schools in Ekiti state implies that perhaps effective teaching of science might not have taken place in the schools. A situation whereby the female science teachers were already tired before getting to their respective schools in the morning after going through strenuous domestic work at home and going for maternity leave does not augur well for effective teaching of science. In view of this, it is absolutely necessary that the controlling agencies should address this ugly incidence and to schools the quality and the dignity intended for them.

Recommendations

On the basis of this, the following recommendations were made:

1. Male science teacher teachers should be encouraged by the education provider to stay on the job by paying them special science teachers allowance.
2. The state government should fund and encourage in-service training programmes for male science teachers.

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