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PRINCIPALS' DEMOGRAPHICS AND SCHOOL PLANT MANAGEMENT IN PUBLIC SECONDARY SCHOOLS IN SOUTH SENATORIAL DISTRICT, AKWA IBOM STATE

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ABSTRACT

This study was carried out to determine the influence of principals' demographics on school plant management in public secondary schools in South Senatorial district, Akwa Ibom State. The study was conducted in Uyo Local Government, Akwa Ibom State. The expost facto research design was used for the study. The population of the study consisted of 108 principals (vice principals, academics, administration and special duties) in the 72 public secondary schools and 7 Local Education Committees (LEC) in South Senatorial District of Akwa Ibom State in 2023/2024 academic year. Purposive sampling technique was used in selecting 108 principals for the study. Data was collected using a researcher developed instrument named, "Principals' Demographics and School Plant Management Questionnaire (PDSPMQ)". The instrument was subjected to face validity by three (3) experts. The reliability of the instrument was .81, determined using Cronbach Alpha Statistics. The research questions were answered and the null hypotheses were tested at 0.05 level of significance using Mean, Standard Deviation, Independent t-test, Analysis of Variance (ANOVA) statistics were used for data analysis. The findings of the study revealed that there is a significant difference in school plant management in public secondary schools in South Senatorial district, Akwa Ibom State based on principals' gender. It was also revealed that there is no significant difference in school plant management in public secondary schools in South Senatorial district, Akwa Ibom State based on principals' age. It was recommended among others that Principals, regardless of gender should embrace diverse management strategies that ensure all aspects of school facilities are effectively maintained, with equal attention to both technical and social aspects of the school environment.

Keywords: Principals' demographics, Gender, Age and school plant management

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Introduction

Secondary education plays a pivotal role in shaping the future of students, serving as a crucial bridge between the foundational years of primary education and the specialized, career-oriented pathways offered by higher education or vocational training. At this stage, students undergo a transformative journey, developing not only academic knowledge but also critical thinking, problem-solving abilities, and interpersonal skills necessary for both personal growth and professional success. The secondary school experience molds young individuals into well-rounded members of society, equipping them with the intellectual, emotional, and social tools needed to navigate the complexities of adult life (Udoh, 2021). Given the importance of this stage in education, the management of secondary schools is not just about overseeing the academic curriculum but it encompasses a broader spectrum of responsibilities that contribute to creating an environment where students can thrive. Effective school management ensures that the infrastructure, resources, and support systems are aligned to meet the diverse needs of students, teachers, and the broader school community (Essien, 2019). In this context, one of the most critical but often overlooked aspects of school administration is school plant management**.**

The term school plant refers to the physical infrastructure and facilities within a school, including classrooms, laboratories, libraries, offices, furniture, and other resources that support the day-to-day functioning of the institution. School plant management refers to the comprehensive oversight and maintenance of all physical resources and infrastructure within the school. This includes not only the classrooms and administrative offices but also the libraries, laboratories, sports facilities, restrooms, furniture, lighting systems, and the general upkeep of the school grounds. The effective management of these physical resources is integral to the successful delivery of education (Umoren, 2020). A well-maintained school plant enhances not only the quality of education but also the overall experience of both students and staff (Okon, 2021). This is because the environment in which learning takes place significantly influences student achievement, motivation, and satisfaction (Earthman, 2022). Poorly maintained school facilities, on the other hand, can contribute to a range of negative outcomes, including poor academic performance, low staff morale, and increased absenteeism among both teachers and students. School plant management encompasses a wide array of activities, including planning, organizing, directing, and controlling the use and maintenance of the school's physical resources. It involves ensuring that the school environment is safe, comfortable, and conducive to learning, as well as planning for future expansions and upgrades to meet changing educational needs. The principal, as the administrative leader of the school, plays a crucial role in school plant management. Principals are responsible for overseeing the allocation of resources, ensuring proper maintenance of facilities, and making strategic decisions regarding infrastructure improvements. They must balance the immediate needs of the

school with long-term planning and sustainability. In this context, principals' leadership and management skills are critical to the successful functioning of the school plant (Akpan, 2021). While school plant management is inherently a technical and administrative function, it is also influenced by demographics of the principal.

Principals' demographics such as gender, age, years of working experience, and area of specialization, can shape their attitudes, behaviors, and approaches to managing school plants. Each of these demographic variables can affect a principal's leadership style, decision-making processes, and prioritization of resources. Gender is one of the principal demographic factors that can influence leadership and management practices in schools. Research has shown that gender differences in leadership styles are often reflected in the way male and female principals' approach administrative tasks, including school plant management (Essien, 2021). Male principals have traditionally been associated with a more authoritative, managerial approach to leadership, which often emphasizes efficiency, task completion, and adherence to rules and regulations. In contrast, female principals are often described as adopting a more collaborative and inclusive approach to leadership. They may place a stronger emphasis on communication, teamwork, and creating a nurturing environment for both students and staff. These gendered differences in leadership styles can extend to school plant management. For instance, male principals may focus more on the technical and logistical aspects of maintaining school facilities, while female principals may prioritize the comfort and well-being of students and staff, leading to a greater focus on facilities that enhance the overall school climate.

In addition to gender, a principal's age can also influence their approach to school plant management. Age is often linked to the level of experience, maturity, and generational perspectives that principals bring to their leadership roles. Younger principals, who may be more familiar with contemporary educational trends and technologies, might be more open to innovative approaches to school plant management (Day *et al.*, 2019). They may be more inclined to adopt new technologies for managing resources, planning, and even tracking maintenance needs. On the other hand, older principals, who may have spent more time in the education system, might rely on traditional methods and have a more cautious or conservative approach to change. However, their years of experience may give them deeper insights into the long-term needs of the school's infrastructure and the challenges associated with maintaining it.

Empirically, David (2019) conducted a study to determine the influence of gender of principals on school plant management in secondary schools in Anambra State. A descriptive survey design was adopted for the study. Out of a population of 6,380 teachers in the six education zones in the state, 672 were sampled through stage sampling procedure. Data were collected using two instruments titled, Principals' Variables Questionnaire (PVQ) and School Plant Management

Questionnaire (SPMQ) which were validated by experts. The internal consistency of the instruments was determined using Cronbach alpha method. The reliability indices of 0.84 and 0.76 were obtained for PVQ and SPMQ respectively. Data analysis was done using Mean, standard deviation and independent t-test statistics. The findings revealed that there is a significant influence of principals' gender on school plant management.

Jack (2018) carried out a study on principals' age and school plant management in secondary schools in Ondo State. The study employed survey research design. The study population consisted of 6,922 secondary school teachers and 466 principals in Ondo State while the sample for the study consisted of 720 teachers and 36 principals. From the 30 Local Government Areas (LGAs) in the State, nine LGAs were selected using simple random sampling technique. From each of the nine LGAs, four schools were selected also using simple random sampling technique. The principal and twenty teachers were selected from each of the 36 schools using simple random sampling technique. Two instruments were used for the study, namely; "Principals' Variables Questionnaire for Principals (PVQ) and "School Plant Management Questionnaire (SPMQ). The reliability of PVQ and SPMQ are 0.87 and 0.78 respectively. Data were analysed using mean, frequency counts and Analysis of Variance (ANOVA). The results showed that there is a significant influence of principals' age on school plant management.

Statement of the Problem

The problem of school plant management in secondary schools is a significant issue that has profound implications for the quality of education, student outcomes, and overall school effectiveness. In many secondary schools, especially in developing regions, the inadequate management of school plants has led to deteriorating infrastructures, overcrowded classrooms, poor sanitary conditions, and unsafe learning environments. These challenges undermine the ability of schools to provide a conducive atmosphere for teaching and learning, directly impacting student performance and teacher satisfaction. Inadequate school plant management is often compounded by the lack of proper training and expertise among those tasked with overseeing these responsibilities. Many school administrators, including principals, do not receive formal training in facility management, leaving them ill-prepared to address the complex challenges of maintaining a school's physical environment. Without the necessary skills and knowledge, school leaders may struggle to prioritize repairs, plan for long-term maintenance, or make informed decisions about resource allocation. This lack of expertise can result in poor decision-making, leading to further deterioration of school facilities. Efforts have been made by school management, NGOs, and the government to address these challenges allocating funds for school renovations and expansions. However, these efforts, while important, often fall short of addressing the systemic issues that plague school plant management.

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It is based on this limelight that the researcher was triggered to determine the influence of principals' demographics on school plant management in public secondary schools in South Senatorial district, Akwa Ibom State.

Research Questions

The following research questions were raised to guide the study:

1 What is the difference in school plant management in public secondary schools in South Senatorial district, Akwa Ibom State based on principals' gender?
2 What is the difference in school plant management in public secondary schools in South Senatorial district, Akwa Ibom State based on principals' age?

Research Hypotheses

The following null-hypotheses were formulated for the study

1. There is no significant difference in school plant management in public secondary schools in South Senatorial district, Akwa Ibom State based on principals' gender.
2. There is no significant difference in school plant management in public secondary schools in South Senatorial district, Akwa Ibom State based on principals' age.

Research Method

The ex-post facto research design was used to carry out the study. Expost facto research design is a design in which groups with qualities that already exist are compared on some dependent variable Expo facto design is considered appropriate because the researcher will not manipulate the variables (gender and age) as they already existed. The design is a typical non-experimental approach that does not involve treatment of any variable (Joe, 2020). The study was conducted in secondary schools in South senatorial district of Akwa Ibom State. South senatorial district is one of the three senatorial district in Akwa Ibom State. South senatorial district is also called Eket Senatorial district. The Senatorial District made up of nine (9) Local Government Areas. The South senatorial district is located at $4^{o}39^{I}$N of the equator and $7^{o}56^{I}$E of the prime meridian. The district was chosen because the researcher lives in the area and aims at investigating the cause of the poor school plant management in schools located in the district. The population comprised of 108 principals (vice principals, academics, administration and special duties) in the 72 public secondary schools and 7 Local Education Committees (LEC) in South Senatorial District of Akwa Ibom State in 2023/2024 academic year (Source: Akwa Ibom State Secondary Education Board, Uyo, 2024). The sample size for this study was 108 Principals including vice principals. Purposive sampling technique was used to select all the principals for the study. Purposive sampling technique (also known as judgmental or selective sampling) is a non-probability sampling method in which the researcher selects participants based on their knowledge, expertise, or specific characteristics relevant to the study. The researcher used this technique because of the manageable size of the population.

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An instrument titled "Principals' Demographics and School Plant Management Questionnaire (PDSPMQ)" developed by the researcher was used for data collection in the study. The instrument has two sections, A and B. Section A solicits for bio-data information of respondents. These cover gender and age. Sections B contained twenty (20) items on school plant management. The items were scored using a four-point rating scale as shown below: All of the times (AOT)= 4 points, Most of the times (MOT)= 3 points, Some of the Times (SOT)= 2 points and Not At All (NAA)= 1 point. The developed instrument was face validated by three experts. Two experts in educational management and planning, and one from the Department of Psychological Foundations of Education, Faculty of Education, University of Uyo, Uyo. Their criticisms, suggestions and adjustments were appraised and incorporated into the final copy of the instrument before being sent out for reliability testing. To determine the reliability of the instrument, the researcher randomly selected 20 principals in the public secondary schools in North East Senatorial district, Akwa Ibom State who were not part of the study sample to respond to the instrument. Data generated was subjected to inter-item analysis using Cronbach Alpha Reliability Statistic for reliability coefficient determination. The reliability coefficient of .81 was obtained. This revealed that the instrument was reliable. The researcher used two research assistants in administering the instrument. Mean, Standard Deviation, Independent t-test, Analysis of Variance (ANOVA) statistics were used for data analysis. Mean and standard deviation statistic were used to answer research questions while Independent t-test and Analysis of Variance (ANOVA) statistics were used to test formulated hypothesis at .05 alpha level of significance.

Results

Research Question 1: What is the difference in school plant management in public secondary schools in South Senatorial district, Akwa Ibom State based on principals' gender?

Table 1: Summary of Mean and Standard deviation for school plant management in public secondary schools in South Senatorial district, Akwa Ibom State based on gender

	Principals' gender	n	Mean	Std. Deviation
School plant management	Male	71	60.70	7.11
	Female	37	33.16	6.16

Source: Computed by the Researcher using data from the respondents (2024)

The result as indicated on Table 1 revealed that the mean and standard deviation scores on school plant management in public secondary schools by male principals is 60.70 and 7.11 while that of female principals is 33.16 and 6.16. With this observation, it implies that there is a difference in school plant management in public secondary schools in South Senatorial district, Akwa Ibom State based on principals' gender.

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Research Question 2: What is the difference in school plant management in public secondary schools in South Senatorial district, Akwa Ibom State based on principals' age?

Table 2: Summary of Mean and Standard deviation for school plant management in public secondary schools in South Senatorial district, Akwa Ibom State based on principals' age

Principals' age	N		S.D
40-49years	11	62.91	8.01
50-54years	56	59.91	7.01
55years and above	41	58.54	10.14

Source: Computed by the Researcher using data from the respondents (2024)

The result as indicated on Table 2 revealed that the mean and standard deviation scores on school plant management in public secondary schools by principals with age range of 40-49years is 62.91 and 8.01, that of principals with age range of 50-54years is 59.91 and 7.01 and that of principals with age range of 55years and above is 58.54 and 10.14 respectively. With this observation, it implies that there is no difference in school plant management in public secondary schools in South Senatorial district, Akwa Ibom State based on principals' age.

Null Hypothesis One ($H_0$1): There is no significant difference in school plant management in public secondary schools in South Senatorial district, Akwa Ibom State based on principals' gender.

Table 3: Summary of Independent t-test of school plant management in public secondary schools in South Senatorial district, Akwa Ibom State based on principals' gender

Principals' gender	n	Mean	S.D.	p-cal.	Decision at .05 Alpha Level
Male	71	60.70	7.11	.000	(S) H_O1 Rejected
Female	37	33.16	6.16		

df= 106, S= Significant at .05 alpha level
Source: Computed by the Researcher using data from the respondents.

In Table 3, the p-calculated value for the difference in school plant management in public secondary schools in South Senatorial district, Akwa Ibom State based on principals' gender is .000. This significant level is less than .05 alpha level at 106 degree of freedom in which the decision is based. This indicated that there is a significant difference in school plant management in public secondary schools in South Senatorial district, Akwa Ibom State based on

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principals' gender. Therefore, the formulated null hypothesis was rejected.

Null Hypothesis Two ($H_0$2): There is no significant difference in school plant management in public secondary schools in South Senatorial district, Akwa Ibom State based on principals' age.

Table 4: Summary of Analysis of Variance (ANOVA) of school plant management in public secondary schools in South Senatorial district, Akwa Ibom State based on age

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Decision at .05 alpha level
Corrected Model	171.259[a]	2	85.629	1.206	.304	NS
Intercept	247003.683	1	247003.683	3478.618	.000	S
AGE	171.259	2	85.629	1.206	.304	NS
Error	7455.658	105	71.006			
Total	392477.000	108				
Corrected Total	7626.917	107				

a. R Squared = .022 (Adjusted R Squared = .004)

Source: Computed by the Researcher using data from the respondents.

In Table 4, the calculated F-ratio for the difference in school plant management in public secondary schools in South Senatorial district, Akwa Ibom State based on principals' age at df 1, 106 is 1.206, while the corresponding level of significance (sig.) is .304. This level of significance is greater than .05 in which the decision is based; indicating that there is no significant difference in school plant management in public secondary schools in South Senatorial district, Akwa Ibom State based on principals' age. With this observation, the null hypothesis was retained.

Discussion of the Findings

The result of hypothesis one revealed that, there is a significant difference in school plant management in public secondary schools in South Senatorial district, Akwa Ibom State based on principals' gender. This finding indicated that school plant management in public secondary schools depends on principals' gender. This finding could be attributed to the fact that in secondary schools, male and female principals may bring different perspectives and priorities to the management of school plants. Male principals often adopt a more task-oriented approach, emphasizing the functional and technical aspects of maintaining the school's physical environment. This could include a focus on infrastructure repairs, cost-efficiency, and the technical requirements of school buildings. Men in leadership may also be more likely to engage in assertive decision-making, often prioritizing practicality and efficiency in school plant management.

Additionally, female principals, on the other hand, are often described as adopting a more relational and inclusive leadership style, which could impact how they approach school plant management. Women in leadership positions might place greater emphasis on creating an environment

that promotes collaboration, inclusivity, and the well-being of both students and staff. This could influence decisions related to the design of learning spaces, ensuring that they are student-friendly, safe, and conducive to effective teaching and learning. The findings of this study agreed with the findings of David (2019) who showed that there is a significant influence of principals' gender on school plant management.

The result of hypothesis two revealed that, there is no significant difference in school plant management in public secondary schools in South Senatorial district, Akwa Ibom State based on principals' age. This finding indicated that school plant management in public secondary schools does not depends on principals' age. This finding could be attributed to the fact that effective school plant management primarily depends on the principal's knowledge, skills, and understanding of the specific needs of the school's physical environment. Whether a principal is young or old, their ability to manage the school's facilities well is shaped by their professional experience, training in educational leadership, and familiarity with facility management practices. For example, both younger and older principals can successfully oversee maintenance, renovations, and facility improvements if they have adequate training and support.

In addition, age does not necessarily dictate one's openness to innovation or adherence to traditional practices. Some younger principals may be conservative in their approach, while older principals can be highly adaptive and open to new ideas. School plant management requires adaptability to changes in technology, building standards, and educational needs, and this adaptability is influenced more by individual personality, leadership style, and willingness to learn than by chronological age. The findings of this study disagreed with the findings of Jack (2018) who showed that there is a significant influence of principals' age on school plant management.

Conclusion

It was concluded based on the findings that there is a significant difference in school plant management in public secondary schools in South Senatorial district, Akwa Ibom State based on principals' gender. It was also revealed that there is no significant difference in school plant management in public secondary schools in South Senatorial district, Akwa Ibom State based on principals' age.

Recommendations

Based on the findings, the following recommendations were made:

1. Principals, regardless of gender should embrace diverse management strategies that ensure all aspects of school facilities are effectively maintained, with equal attention to both technical and social aspects of the school environment.
2. Principals of all ages should focus on continuous learning and skill acquisition rather than relying on age as an indicator of capability. They should embrace adaptability and openness to new methods in

managing school facilities, regardless of their stage in life or career.

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