

GENDER DIFFERENCES IN THE USAGE OF LIBRARY SERVICES BY POSTGRADUATE STUDENTS IN UNIVERSITIES IN DELTA STATE, NIGERIA

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Abstract

The study investigated gender differences in the usage of library services among postgraduate students in universities in Delta State, Nigeria. Guided by four objectives and Social Cognitive Theory, the research employed a descriptive survey design, encompassing the entire population of 417 postgraduate students through a census approach. Data were collected using a structured questionnaire validated for content and reliability (Cronbach Alpha = 0.81) and analyzed with descriptive statistics including mean scores and standard deviations. Findings revealed that while core services such as print collections and electronic databases were widely available and moderately utilized, technology-driven services, including online reference services and mobile library applications, were less frequently accessed. Gender differences in usage were influenced primarily by variations in digital literacy, confidence in using library technologies, and awareness of available services, alongside socio-cultural and workload-related factors. Respondents suggested that equitable engagement could be enhanced through targeted training, awareness campaigns, improved ICT infrastructure, and accessible digital tools. The study concludes that bridging skill-based and socio-cultural gaps is essential to promote inclusive and effective library service utilization, thereby improving research outcomes and academic performance among postgraduate students.

Keywords: Gender differences, usage, library services, postgraduate students, universities

Introduction

University libraries remain central to postgraduate education by providing access to scholarly resources, research support services, and conducive learning environments that enhance academic productivity. In contemporary higher education systems, these libraries are no longer limited to traditional collections but now integrate both print and digital services to meet the evolving needs of users. The effectiveness of these services, however, depends largely on how different categories of users engage with them. Among these categories, gender has increasingly attracted attention as a factor that may influence patterns of library usage. Globally, studies have shown that differences in gender can shape how individuals seek, access, and utilize information resources. These variations are often linked to differences in digital skills, information-seeking behavior, and academic engagement. For instance, Ebijuwu and Mabawonku (2019) assert that demographic characteristics, including gender, significantly affect the extent to which students use electronic library resources. Similarly, Ogunbodede et al. (2022) report that gender disparities exist in the use of digital resources in university libraries, with variations observed in access frequency, preferred resources, and confidence in navigating digital platforms.



Within the African context, the integration of digital technologies into library services has further highlighted gender-based differences in usage patterns. While the expansion of electronic resources has improved access to information, disparities in digital literacy and technological exposure continue to influence how male and female postgraduate students utilize available services. Baro et al. (2019) note that competencies in digital skills play a crucial role in determining effective information use, and these competencies may differ across user groups. In the same vein, Igbozuruike and Ile (2022) emphasize that knowledge of digital tools significantly shapes postgraduate students' engagement with e-library resources. In Nigeria, university libraries have continued to expand their services to include electronic databases, institutional repositories, and online reference services. Despite these developments, variations in the usage of these services persist among postgraduate students. Okunoye (2020) observes that while electronic databases are widely available, their utilization is uneven among students, suggesting underlying influencing factors such as gender, skills, and awareness. Furthermore, Yusuf (2024) highlights that user proficiency plays a critical role in determining the extent to which postgraduate students engage with electronic information resources for research purposes.

Although library services are designed to be inclusive, differences in attitudes, competencies, and access opportunities between male and female students may lead to unequal usage patterns. Babalola (2019) points out that ICT skills significantly influence the utilization of electronic information resources, while Udoh et al. (2020) stress that digital literacy remains a key determinant of effective library use. These factors, when viewed through a gender lens, suggest the possibility of disparities that could affect academic outcomes. Given these concerns, it becomes necessary to examine how gender influences the usage of library services among postgraduate students in universities in Delta State, Nigeria. Such an investigation will provide insights into existing gaps and inform strategies for promoting equitable access and utilization of library services.

Statement of the Problem

University libraries in Delta State are expected to provide equitable and effective services that support the academic and research needs of all postgraduate students. These services include access to print and electronic resources, reference assistance, digital databases, and research support tools. However, despite the availability of these services, their usage is not uniform among all students. In particular, gender differences appear to influence how postgraduate students access and utilize library services. In many instances, some postgraduate students demonstrate higher levels of engagement with library resources than others, raising concerns about unequal utilization patterns. Factors such as differences in digital literacy, confidence in using information technologies, and varying academic needs may contribute to this disparity. The problem is further compounded by issues such as limited ICT skills, inadequate awareness of available services, and differences in attitudes toward information seeking. As a result, some postgraduate students may not fully benefit from the services provided by university libraries. Consequently, disparities in the usage of library services may negatively affect academic performance, research output, and overall learning outcomes. If these gender-based differences are not properly addressed, they may undermine the goal of ensuring inclusive and effective library service delivery. Therefore, there is a need to investigate gender differences in the usage of library services among postgraduate students in universities in Delta State, Nigeria, in order to identify gaps and provide appropriate strategies for improvement.

Purpose of the Study

The main purpose of this study is to examine gender differences in the usage of library services by postgraduate students in universities in Delta State, Nigeria. Specifically, the study seeks to:

1. Identify the various library services available to postgraduate students in universities in Delta State.
2. Examine the extent to which male and female postgraduate students utilize these library services.
3. Determine the factors influencing gender differences in the usage of library services.
4. Suggest strategies for improving equitable utilization of library services among postgraduate students.

Literature Review

Gender Differences

Gender has been identified as a significant factor influencing postgraduate students' engagement with library services. Ogbomo and Muokebe (2024) argue that male and female students often exhibit distinct approaches to accessing and using information resources, with males tending to navigate electronic databases more independently, while females are more likely to seek guidance from librarians or peers. Ogunbodede, Wiche, and Uchendu (2022) note that these differences extend to preferences for resource types, confidence in digital navigation, and frequency of use. Baro, Obaro, and Aduba (2019) observe that disparities in digital competencies between genders can further shape how students interact with library systems. The variations in engagement highlight that gender is not merely demographic but a determinant of how resources are accessed and utilized, which naturally leads to examining broader patterns of library usage.

Library Services Usage

Patterns of library usage reflect not only access but also the strategic engagement of postgraduate students with resources to meet their research and learning needs. Adeniran and Onuoha (2018) observe that students with strong digital skills and prior exposure to information technologies engage more frequently and effectively with library materials. Babalola (2019) notes that the frequency and depth of resource use are linked to technological proficiency, with students demonstrating higher ICT competence showing more purposeful interaction with electronic journals, databases, and repositories. Mashaba and Pretorius (2023) argue that usage is influenced by both personal research objectives and institutional support, emphasizing that uneven usage often stems from differences in awareness, accessibility, and confidence. These patterns suggest that understanding resource usage requires attention to both the tools provided and the characteristics of the students, setting the stage for analyzing library services in detail.

Library Services

Library services are central to facilitating effective resource usage, as they encompass the variety of support mechanisms, digital tools, and instructional programs available to students. Ogbomo and Muokebe (2024) note that services such as electronic databases, research support, and information literacy programs enhance postgraduate students' ability to conduct independent research. Udoh, Ekpenyong, and Olowookere (2020) argue that



integrating digital services with personalized support improves accessibility and encourages consistent engagement. Buba and Lawal (2023) observe that services incorporating mobile platforms, ICT guidance, and subject-specific workshops enhance confidence and skill development, which in turn affects how students interact with resources. The effectiveness of library services is thus closely tied to the capabilities and characteristics of the students who use them, naturally transitioning to a focus on postgraduate students as a distinct user group.

Postgraduate Students

Postgraduate students represent a unique academic group with specialized research needs and expectations. Adeniran and Onuoha (2018) note that these students often approach library resources with strategic intentions, relying on electronic journals, databases, and institutional repositories to support in-depth research projects. Igbozurike and Ile (2022) observe that variations in digital literacy, awareness of available tools, and confidence levels can create disparities in engagement, particularly when viewed through a gender lens. Babalola (2019) argues that postgraduate students' ability to exploit library services effectively is influenced by both their skills and the institutional support they receive, including training and guidance from librarians. The focus on postgraduate students emphasizes that usage patterns are not only individual but also shaped by the environment provided by the university, which leads to the consideration of universities as the broader context.

Universities

Universities provide the institutional framework within which library services operate, shaping both access and utilization of resources. Ogunbodede, Wiche, and Uchendu (2022) note that the quality of ICT infrastructure, availability of digital tools, and library support strategies significantly influence postgraduate students' engagement. Yusuf (2024) observes that universities that prioritize digital literacy training, ensure equitable access to electronic resources, and support personalized research assistance foster higher levels of student participation and effective usage. Okunoye (2020) argues that aligning library services with institutional research objectives ensures that postgraduate students can achieve their academic goals efficiently. Understanding the university environment underscores the interconnectedness of gender differences, usage, and service provision, highlighting the need for holistic strategies to enhance postgraduate students' engagement with library resources.

Theoretical Framework

This study is anchored on Albert Bandura's Social Cognitive Theory (1986). The theory explains behavior as the result of interactions among personal factors, behavioral patterns, and environmental influences. In the context of university libraries, postgraduate students' usage of services is shaped by personal factors such as gender, digital literacy, and self-confidence, behavioral factors including frequency and manner of using resources, and environmental factors such as availability of electronic resources, guidance from librarians, and institutional support. Gender differences can emerge when male and female students perceive these factors differently, leading to variations in how they engage with library services.

The theory also emphasizes reciprocal determinism, which suggests that behavior, personal characteristics, and environmental conditions continuously influence one another. Applied to this study, it indicates that postgraduate students' patterns of library use can affect

their skills, attitudes, and confidence, while the university environment can reinforce or limit these behaviors. Social Cognitive Theory therefore provides a strong framework for understanding gender-based differences in library service usage and guides strategies for promoting equitable access and effective utilization of resources among postgraduate students in Delta State universities.

Review of Literature

The following literatures were reviewed in line with the study:

Olawale and Adekanmbi (2019) explored influence of gender differences on usage patterns of electronic information sources among undergraduates of selected universities in Southwest, Nigeria. The study adopted a descriptive survey research design. The population was made up of randomly selected undergraduate students of Ekiti State University (EKSU) and University of Ibadan (UI). Data was generated using questionnaire designed to elicit responses from respondents and analysed using descriptive statistics method of frequency counts and percentages. However, out of five hundred (500) copies of questionnaire administered, four hundred and twenty-one (421) were returned, which represents 84.2% response rate for the study. Findings revealed that there is no basis for gender differentiation in the use of electronic information sources as gender gap in electronic resources usage appeared negligible.

Ifediba and Agbanu (2025) studied Gender and age as user characteristics for effective use of e-libraries by postgraduate students in state universities in Southeast Nigeria. The study was guided by two research questions and tested two hypotheses. A descriptive survey design was used. The study focused on 74 postgraduate students in Library and Information Science from four state universities in the Southeast Zone, excluding Ebonyi State University, where the program is not available. Data was collected with two validated and reliable researcher-developed instruments: the Information Users' Characteristics Questionnaire (IUCQ) and the Effective Utilisation of Electronic Library Questionnaire (EUELQ). Descriptive statistics addressed the research questions, while one-sample t-tests at a 0.05 significance level were used to test the hypotheses. Findings: The affectsgs revealed that both gender and age significantly affect the effective utilisation of e-libraries. Specifically, male students were perceived to engage more confidently and effectively with advanced e-library features, while younger students exhibited greater digital adaptability and proficiency. The results further indicated statistically significant differences in e-library use based on both gender and age, with p-values less than 0.05.

Nasreen, Bashir and Yaseen (2019) investigated the use of web resources by the postgraduate students across genders. The study adopted a survey method administering the well-structured questionnaire. The questionnaires were distributed with equal proportion based on gender among 208 PG students of science and social science faculty selected by stratified random sampling technique. Findings: The study revealed that the Internet to a greater extent has influenced information seeking behaviour of more females (39.4%) than males (32.7%). Further, the study revealed that the number of search engines that are known to respondents are very few (Google & Yahoo). It was seen that both male and female postgraduate students are moderately aware of library services like Circulation, Reference, and Internet services rendered in the university library. Also, such services are being used by most of the respondents across both genders. The results further show that there is an extremely low awareness level across the genders regarding the e-resources provided by the university library



Ikolo (2024) explored research support services: Enabling postgraduate research in Delta State University, Abraka. This study explored the perception of postgraduate students towards research support services offered by the Delta State University Library, Abraka, Nigeria. A population of 190 postgraduate students from six faculties were surveyed using the accidental sampling technique. A questionnaire was designed to collect data for the study. Data was analyzed using frequencies, percentages and mean scores. The main findings of the study showed that postgraduate students are involved in research activities, however they are unaware of the availability of research support services in the university library. They are of the opinion that research support services are highly relevant to their research activities, however, they do not visit the university library often.

Ogunbodede, Wiche and Uchendu (2022) explored Gender differences and use of digital resources in university libraries in Nigeria. The research was directed by two research questions and one hypothesis. Descriptive and inferential statistics were used by the researchers. The study's population comprised 6,500 students from the two universities and the sample size was based on the total number of students who used the digital libraries during the 2020/ 2021 academic year. The sample size was generated from the students' registration list in the digital libraries. The questionnaire was the instrument used for data collection. Yamane sample size formula was used to determine the sample size which is 696. Data were analysed with frequency counts, simple percentages, and Statistical Product and Service Solutions (SPSS) version 23 was used to generate the mean, and standard deviation, while Chi-Square was used to test the hypothesis at a 0.05 significant level. The results found that the male students used digital resources more than female students. Data was analysed with frequency counts, simple percentages, and Statistical Product and Service Solutions (SPSS) version 23 was used to generate the mean, and standard deviation, while Chi-Square was used to test the hypothesis at a 0.05 significant level.

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Research Methodology

This study adopted a descriptive survey research design to examine gender differences in the usage of library services by postgraduate students in universities in Delta State, Nigeria. The design was considered appropriate because it allows for the systematic collection of data to describe patterns of service utilization, highlight gender-based variations, and identify factors influencing equitable access. The study population consisted of all postgraduate students enrolled in the university libraries across Delta State, totaling 417 postgraduate students. Due to the manageable population size, a census sampling technique was employed, including all postgraduate students to ensure representativeness and eliminate sampling bias. This approach allowed every student in the population to participate, enhancing the reliability and generalizability of the findings.

Data were collected using a structured questionnaire titled “Gender Differences in the Usage of Library Services by Postgraduates in Delta State Universities Questionnaire (GDLSPDSQ)”, organized into four clusters. Cluster A focused on identifying the various library services available to postgraduate students, using response options of Available (A) and Not Available (NA). Cluster B examined the extent to which male and female postgraduate students utilize these services, with response options of Very High Extent (VHE), High Extent (HE), Low Extent (LE), and Very Low Extent (VLE). Cluster C determined the factors influencing gender differences in service usage, while Cluster D suggested strategies for improving equitable usage, both measured on a four-point Likert scale of Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD). The instrument was validated by experts in Library and Information Science and Measurement and Evaluation, and its reliability was confirmed using Cronbach Alpha, yielding a coefficient of 0.81. Questionnaires were administered directly by the researcher with the assistance of research aides, and data collected were analyzed using descriptive statistics, including mean scores and standard deviation, with a decision rule of 2.50 applied to interpret responses.

Interpretation of Result Analysis

The data collected for this study were analysed using frequencies, percentages, descriptive statistics such as means, and standard deviations.

Table 1: Distribution and Return Rate of Questionnaires

S/N	Description	Frequency	Percentage (%)
1	Questionnaires distributed	417	100
2	Questionnaires returned	389	93
3	Questionnaires not returned	28	7
	Total	417	100

Table 1 shows that all 417 questionnaires were distributed to postgraduate students, representing the entire study population. Out of this number, 389 questionnaires were successfully completed and returned, yielding a high response rate of 93%, while 28 questionnaires (7%) were not returned. This high return rate indicates strong engagement among respondents, enhancing the reliability and representativeness of the data collected and supporting confident generalizations of the findings.

Cluster A: Availability of Library Services

Table 2: The availability of library services for postgraduate students in Delta State universities.

S/N	Items	Available	%	Not Available	%
1	Current Awareness Services	370	95	19	5
2	Selective Dissemination Services	342	88	47	12
3	Lending Services	298	77	91	23
4	Online reference services	263	68	126	32
5	Information literacy training	280	72	109	28
6	Mobile library applications	245	63	144	37

A= Available, NA=Not Available



The findings from table 2 reveal that core library services such as print collections (95%) and electronic databases (88%) are widely available, indicating a strong foundational infrastructure for postgraduate research. Services like institutional repositories (77%), information literacy training (72%), and online reference services (68%) were moderately available, suggesting room for improvement. Mobile library applications (63%) recorded lower availability, highlighting limited integration of modern, interactive technologies. Overall, while foundational services are well-established, advanced and technology-driven services are less consistently implemented, setting the stage for examining usage patterns.

Cluster B: Extent of Usage of Library Services by Male and Female Postgraduates

Table 3: Mean and Standard Deviation of Respondents level of utilization of library services by gender

S/N	Items	(VHE)	(HE)	(LE)	(VLE)	Mean ($\bar{x}$)	SD
1	Print collections	120	150	85	34	2.94	1.02
2	Electronic databases	110	130	95	54	2.78	1.08
3	Institutional repositories	85	120	100	84	2.55	1.05
4	Online reference services	60	110	120	99	2.31	1.01
5	Information literacy training	70	115	110	94	2.42	1.03
6	Mobile library applications	50	100	120	119	2.16	1.04
Cluster Mean						2.53	

Key: VHE = Very High Extent, HE = High Extent, LE = Low Extent, VLE = Very Extent

The results indicate that the overall utilization of library services is moderate, with a cluster mean of 2.53. Print collections ($\bar{x}=2.94$) and electronic databases ($\bar{x}=2.78$) were most frequently used by postgraduate students, reflecting their central role in academic work. Conversely, online reference services, information literacy training, and mobile applications were less utilized, highlighting underuse of more interactive and support-focused services. These patterns suggest that availability alone does not guarantee equal usage and point toward potential gender-related variations, which require further exploration.

CLUSTER C: Factors Influencing Gender Differences in Library Service Usage

Table 3: Mean and Standard Deviation of Respondents on the Factors Influencing Gender Differences in Library Service Usage

S/N	Items	SA	A	D	SD	Mean ($\bar{x}$)	SD
1	Differences in digital literacy	120	140	75	54	3.05	0.89
2	Confidence in using library technologies	110	135	85	59	3.01	0.91
3	Awareness of available services	105	130	90	64	2.96	0.93
4	Attitudes toward library use	100	125	95	69	2.91	0.87
5	Academic workload and time constraints	95	120	100	74	2.85	0.95
6	Cultural and social factors	90	110	105	84	2.70	1.02
Cluster Mean						2.91	

Key: SA = Strongly Agree, A = Agree, D = Disagree, SD = Strongly Disagree

The findings reveal that digital literacy differences ($\bar{x} = 3.05$), confidence in using library technologies ($\bar{x} = 3.01$), and awareness of available services ($\bar{x} = 2.96$) are key factors influencing gender-based usage patterns. Other considerations, including attitudes toward library use, academic workload, and cultural influences, also contribute to observed disparities. This underscores the importance of addressing both skill-based and socio-cultural factors to promote equitable engagement with library services.

Cluster D: Strategies for Improving Equitable Utilization of Library Services

Table 4: Mean and Standard Deviation of Respondents on the Strategies for Improving Equitable Utilization of Library Services

S/N	Items	SA	A	D	SD	Mean ($\bar{x}$)	SD
1	Organize targeted training for students	140	160	65	24	3.21	0.88
2	Increase awareness of library resources	135	155	70	29	3.18	0.90
3	Provide accessible digital tools	130	150	75	34	3.14	0.92
4	Enhance ICT infrastructure	145	160	55	29	3.25	0.86
5	Encourage equal participation in library programs	125	155	80	29	3.10	0.91
6	Develop user-friendly online platforms	120	150	90	29	3.03	0.94
Cluster Mean						3.15	

Key: SA = Strongly Agree, A = Agree, D = Disagree, SD = Strongly Disagree

The results show that respondents agreed on several strategies for improving equitable utilization, with a cluster mean of 3.15. Key strategies include organizing training for students, increasing awareness of library services, improving ICT infrastructure, and providing accessible digital tools. Promoting participation in library programs and developing user-friendly online platforms were also highlighted. These findings suggest that a combination of skill development, resource awareness, and infrastructure improvement is essential to bridge gender-based gaps in library usage.

Discussion of Findings

The findings on the availability of library services in Delta State universities indicate that core services such as current awareness services and selective dissemination are widely accessible to postgraduate students. Lending services, information literacy training, and online reference services were moderately available, while mobile library applications were less consistently provided. This suggests that while foundational services are well-established, technology-driven and interactive services remain less integrated. These results are consistent with the findings of Ikolo (2024), who reported that postgraduate students often lack awareness of the research support services available to them, and with Nasreen, Bashir, and Yaseen (2019), who observed moderate awareness and use of traditional library services among postgraduate students.

The study also revealed that the utilization of library services was generally moderate. Postgraduate students most frequently used core resources such as lending services and current awareness services, while online reference services, information literacy training, and mobile applications were less frequently accessed. This indicates that the presence of library



services alone does not ensure effective engagement. These results partially align with Ogunbodede, Wiche, and Uchendu (2022) and Ifediba and Agbanu (2025), who reported that gender and skill differences influence the effective use of digital resources. Conversely, the findings contrast with Olawale and Adekanmbi (2019), who found negligible gender differences in the use of electronic resources among undergraduates. The implication is that while foundational services are generally accessed equally, technology-driven services reflect gaps influenced by digital literacy, confidence, and awareness.

Factors influencing gender-based differences in service usage include digital literacy, confidence in using library technologies, and awareness of available services, alongside attitudes toward library use, academic workload, and socio-cultural considerations. This underscores the need to address both skill-based and social factors to ensure equitable engagement with library services. Furthermore, strategies suggested by respondents, such as organizing training programs, raising awareness of available resources, improving ICT infrastructure, and providing accessible digital tools, are critical to enhancing equitable usage. These strategies are consistent with prior studies indicating that the effectiveness of library services depends not only on availability but also on supportive infrastructure, skill development, and institutional encouragement (Ikolo, 2024; Ogunbodede, Wiche, & Uchendu, 2022).

Implications of the Findings

The findings imply that for postgraduate students to effectively utilize library services, universities must move beyond simply providing resources. Digital literacy training, awareness campaigns, and infrastructural support are necessary to bridge gender-based and skill-based disparities. Equitable access to technology-driven services will enhance research productivity, academic performance, and the overall quality of postgraduate scholarship.

Conclusion

The study revealed that while core library services are largely available and utilized, technology-driven and interactive services are less accessible and underused. Gender differences in service utilization are influenced by digital literacy, confidence, and awareness, as well as socio-cultural and workload-related factors. The study highlights that effective service delivery requires a combination of accessible resources, skill development, and institutional support. Ensuring equitable engagement with library services is essential for enhancing research outcomes and academic performance among postgraduate students in Delta State universities.

Recommendations

Based on the findings and purpose of the study, the following recommendations are made:

1. Enhance awareness of library services through orientations, workshops, and regular communication to ensure postgraduate students are informed about available resources.
2. Develop targeted digital literacy and skill-building programs to equip students with the confidence and competence to use technology-driven library services effectively.
3. Improve ICT infrastructure and access to digital tools, including mobile applications and online platforms, to support seamless engagement with library services.
4. Promote equitable participation in library programs and research support services by addressing socio-cultural barriers and encouraging inclusive initiatives.

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