

## Research self-efficacy as Correlates of Research Competence of Library and Information Science Postgraduate Students' in Selected Universities in South -West, Nigeria.

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### **Abstract**

*Postgraduate education is fundamentally research-intensive, demanding a high level of research self-efficacy and research competence which are crucial for academic success and professional development. Therefore, this study investigated research self-efficacy as predictor of research competence of Library and Information Science (LIS) postgraduate students. Descriptive survey research design of the correlational type and total enumeration method was adopted. A self-developed questionnaire was administered to two hundred and eighty seven (287) postgraduate students. However, a total of 203(70.73%) copies of questionnaires were returned and found useful for the study. The findings of the study revealed that the level of research self-efficacy of the LIS PG students was fair. It was also revealed that the level of research competence of the LIS PG students' was high. The study found out that there was significant difference in the research competence of the LIS postgraduate students' ( $P= 0.039<0.05$ ) based on gender. The study therefore concludes that research self-efficacy, and research competences are key tools that promote research success among postgraduate students. The study recommends among other things that universities should foster an inclusive and supportive research environment that values diverse perspectives and experiences which will contribute to closing the gender gap in the research competence of LIS PG students.*

**Keywords:** *Research Self- Efficacy, Research Competence, Library and Information Science, Postgraduate Student*

### **INTRODUCTION**

Research is essential for advancing knowledge, driving innovation, and informing decision-making in various fields including library and information science (LIS). Much of the activities involved in research are tacit and intuitive and directed on the long run towards problem solving

within the context of professional practice. Rigorous researches are therefore carried out by postgraduate students (PGS) who will later become the teeming workforce in various fields of endeavor to expand the frontiers of knowledge in any nation. Postgraduate students (PGS) are individuals that have obtained a bachelor's degree and are furthering their education. Consequently, a postgraduate programme in LIS prepares professional librarians for receiving master's or doctoral degrees to foster the growth of the profession. Librarians with Master's or Doctoral degrees are leaders in the information profession globally. These graduates are necessary for managerial and other leadership position in information science research and higher education. During the period of training, PG students are expected to conduct independent research, in form of research writing which is a prerequisite or the award of a degree to postgraduate students. Consequently, conducting research as a PG student demand been organized by; following systematic patterns of enquiry, looking for answers, validating existing research knowledge and generating new evidence-based knowledge. On the long run, these activities form the nucleus of the research competence of the PG students.

Research competence is the postgraduate students' ability to demonstrate knowledge, skills and attitude towards goal accomplishments in research. It encompasses a range of competencies, such as research design (ability to conceptualize and plan research studies, by defining research questions, selecting appropriate methodologies, and designing data collection instruments), data collection, (proficiency in gathering data using various methods such as surveys, interviews, experiments, or observations), data analysis (skills in analyzing, interpreting data and drawing meaning conclusions from data using statistical or qualitative methods, depending on the research design and objectives). It also entails critical thinking (the capacity to evaluate and interpret existing research literature, identify gaps in knowledge, and developing insights or hypotheses based on evidence), communication (The ability to effectively communicate research findings through written reports, presentations, or publications.) and lastly ethical conduct (Adherence to ethical principles and guidelines in all stages of the research process, including obtaining informed consent, ensuring participant confidentiality, and disclosing potential conflicts of interest).

These competencies are essential for producing high-quality research outputs and contributing to the advancement of knowledge in LIS profession. Research competence helps to develop the professionals, useful for the resolution of the problem in our society (Srivastava & Prakasha, 2017). The content of the research competence represents the body of four interconnected components: cognitive, motivation-goal, activity-evaluation, and communicative. The cognitive component represents a set of students' theoretical and methodological knowledge, the knowledge of the essence of the main research methods, ability to see problems, observation, independence of judgments, high intelligence, good memory, and aspiration to express own truth.

The motivation-goal component represents the understanding of this knowledge for oneself as a personality and for professional activity, and awareness of the research position importance in the professional activity. Thus, it is the system of emotional-volitional attitudes towards oneself (the availability of a high self-estimation), to the surrounding world, to people, and to the professional activity and opportunities of self-improvement. The activity-evaluation component represents the ability to use this knowledge for the solution of practical tasks, the ability to carry out research actions to solve professional research tasks (ability to generate a large number of new ideas, originality of thinking, ability to react to the situation in the original way, ability to improve

the object). The communicative component represents the readiness to help, ability to work in a team, ability to coordinate actions, and to collaborate (Yarullin & Tsyrukun, 2015). The effectiveness and interaction of the above content of the research competence will further depend on postgraduate students' research self-efficacy.

Research self-efficacy refers to an individual's (LIS PGS) belief in their ability to effectively engage in research activities. It encompasses confidence in various research-related skills, such as formulating research questions, designing studies, collecting and analyzing data, and communicating research findings (Pajares, 2003). This concept is rooted in Albert Bandura's theory of self-efficacy, which posits that individuals' beliefs in their capabilities influence their behavior, motivation, and perseverance in achieving goals (Lent, Brown, & Hackett, 1994). Bandura (1997) posited that self-efficacy beliefs are shaped by four main sources of information: mastery experiences (past successes or failures in similar tasks), vicarious experiences (observing others' successes or failures), social persuasion (feedback or encouragement from others), and physiological states (physical and emotional reactions to tasks). Kolo, Jaafar and Ahmad (2017) see self-efficacy as a belief in one's capabilities to organize and execute the causes of action required to manage prospective situation. Bandura's theory of self-efficacy argued that, human behaviour can be predicted by an individual level of confidence in their ability to succeed in a specific task (Bandura, 1997).

Self-efficacy is one of the important aspect of social cognitive theory because most of the individual (postgraduate students') level of self-efficacy are from external experiences and self-perception which determine the results of tasks and circumstances they encountered (Bandura, 1997). In the context of research, high levels of research self-efficacy can lead to increased motivation, persistence, and success in conducting research projects by the LIS PG students. Also, LIS postgraduate student with high research self-efficacy are more likely to approach research tasks with confidence, persistence, and resilience. They are more inclined to set challenging research goals, exert effort, and persevere in the face of obstacles. Conversely, individuals with low research self-efficacy may avoid research tasks, doubt their abilities, and experience anxiety or frustration when confronted with research-related challenges.

Library and Information Science postgraduate students' self-efficacy has therefore become important in achieving success in research activities. Self-efficacy beliefs are among the knowledge structures that act as a pervasive influence on individual development especially in research competence. Students' judgments of their capability to perform academic tasks, that is, their self-efficacy beliefs, predict their capability to accomplish such tasks (Ogungbeni, 2021). Research self-efficacy plays a great role in enhancing LIS PG research competence. According to Schunk (2015), research self-efficacy refers to LIS postgraduate students' convictions that they can successfully deliver any research inquiry tasks at designated levels. Moreover, research self-efficacy will further enhance students' perceptions of their competence to do their research work and other academic activities (Ogungbeni, 2021).

The relationship between research self-efficacy and research competence is interconnected and mutually reinforcing. This is because individuals with high research self-efficacy are more likely to engage in research activities with confidence and persistence. This belief in their capabilities can motivate them to acquire and refine the necessary skills and knowledge, ultimately

leading to increased research competence. Also, as individuals develop and demonstrate competence in various research-related tasks, such as research design, data collection, analysis, and communication, their confidence in their abilities (self-efficacy) tends to be strengthened. Successes in these areas validate their beliefs in their research capabilities, leading to a positive feedback loop where increased competence reinforces higher levels of self-efficacy. Additionally, research self-efficacy influences not only the initial engagement in research activities but also the effort and persistence individuals invest in overcoming challenges and achieving goals. Those with higher levels of self-efficacy are more likely to persist in the face of obstacles, which can facilitate the development and mastery of research competence over time.

On the long run research self-efficacy influences individuals' beliefs about their capabilities, while research competence reflects their actual performance and proficiency in research tasks. Moreover, as the demand for evidence-based decision-making continues to rise in academia, policy making and industry, the need to cultivate a workforce equipped with robust research competencies and a strong sense of self-efficacy in research becomes increasingly imperative. Hence the need for this study to look at the Research self-efficacy as Correlates of Research Competence of Library and Information Science Postgraduate Students in Selected Universities in South -West, Nigeria.

### **Problem Statement**

Earning a Postgraduate degree in LIS is a job requirement as information professional and not just an additional academic certificate/title. This is because information professionals are academic staff especially in institutions of higher learning globally. As future information professionals LIS PGS need to engage in scholarly research inquiry while in PG school by engaging in term paper writing, assignments and ultimately conducting independent research. In conducting the independent research the students must follow structured research process such as formulating research questions, conducting literature reviews, designing methodologies, collecting data, analyzing results, and communicating findings through publications or presentations. All these activities forms the nucleus of developing the research self-efficacy and competence while in school and upon graduation it opens up avenue to contribute to knowledge through diverse research endeavours. The quality of the research to be carried out will be dependent on the research self-efficacy and research competence of the individual. There is also evidence to show that the performance of both masters and PhD students in research method course has been consistently poor (Obaseki & Agu, 2019) hence the need for this study.

Additionally, to earn promotion as an academic staff there has to be continuous research inquiry leading to publishing the research findings in reputable journal outlet upon graduation. However, despite the importance of research competence in LIS, there is a notable gap in our understanding of the specific research skills, knowledge, and abilities required of PG students in this discipline. Existing literature has primarily focused generally on either research competence or research self-efficacy among graduate students in various disciplines (Meerah, Osman, Zakaria, Ikhsan, Krish, Lian, & Mahmod, 2014; Smith & Johnson, 2015; Ugwu, Ifeanyieze, & Agbo, 2015; Corsi, Zacchia, & Zuazu, 2021; Guo, Chen, & Zheng, 2021) with only limited studies paying attention to LIS postgraduate students and a combination of both their research self-efficacy and the research competence.

Furthermore, without a clear understanding of the research competence expectations and trajectories within LIS postgraduate education, it becomes difficult to design effective curriculum, assessment methods, and support mechanisms to facilitate students' research skill development and scholarly growth. Addressing these gaps in the literature will also be critical in ensuring that LIS graduates are equipped with the necessary competencies to succeed as information professionals, researchers, and leaders in the field. Therefore, there is a pressing need for empirical research that systematically investigates research self-efficacy, as correlates of research competence of Library and Information Science postgraduate students' in South West, universities, Nigeria.

## **Research Questions**

The following research questions guided the study

1. What is the level of research self-efficacy of LIS postgraduate students in universities in South-West, Nigeria?
2. What is the level of research competence of LIS postgraduate students in universities in South-West, Nigeria?

## **Research Hypotheses**

The following research Hypotheses guided the study

1. There is no significant relationship between research self-efficacy and research competence of Library and Information Science postgraduate students in universities in South-West, Nigeria.
2. There is no significant difference in the research self-efficacy Library and Information Science postgraduate students in universities in South-West, Nigeria based on gender.
3. There is no significant difference in the research competence of Library and Information Science postgraduate students in universities in South-West, Nigeria based on gender.

## **REVIEW OF LITERATURE**

### **Research Self-Efficacy of Postgraduate Students**

Self-efficacy refers to the overall belief in our ability to succeed, in designated task at hand. Self-efficacy is part of an individual's belief in his capability to organize and execute courses of action required to manage prospective situations (Bandura, 1997). Self-efficacy is a significant determinant of performance which operates partially independently of underlying skills; it involves a generative capability in which one must organize cognitive, social and behavioural sub-skills into integrated courses of action (Saks, 2019). Efficacy belief thus varies in level, strength and generality, and these dimensions prove important in determining appropriate measurement (Tella, Tella, Ayeni & Omoba, 2018). Self-efficacy are believe in one's capabilities to organize and execute the courses of action required to manage prospective situations. Indeed self-efficacy has become a variable with relevance in areas such as school achievement, emotional disorder, mental health, career commitment, parenting, sports etc (Awodoyin et al 2017) etc.



It is generally reported that individuals with higher self-efficacy perceive difficult tasks as meaningful challenges, despite the fact that others may find similar tasks discouraging. In Bandura's (1994) understanding, high self-efficacy fosters intrinsic interest and deep engrossment in activities, on the contrary, a lack of self-efficacy may cause people to have low aspirations, slacken their efforts, and give up easily. Consequently, self-efficacy is a self-sustaining trait; when a person is driven to work through his problems on his own terms, he gains positive experiences that in turn boost his self-efficacy even more. By implication we can say that research self-efficacy, is the belief in LIS PG students capabilities to successfully carry out research related task. For the LIS PG student, research self-efficacy lies in their conviction that he or she can succeed in specific research field subject area. Research self-efficacy is a kind of self-efficacy, and is one's perception and belief in successfully realizing the functions related to conducting the activities in research that involves reviewing the literature, formulating research objectives, writing and performing the data analysis etc (Kanjiani, 2021). Postgraduate students with elevated/higher research self-efficacy turn out to be more motivated for carrying out research-related activities in relation to their peers and are more persistent in the face of challenges, leading to research productivity and more success in their academic endeavour (Chang et al, 2016; Udem & Anaehobi, 2020; Kanjiani, 2021).

For the postgraduate student, research self-efficacy is not just important in the development of one's research identity; it is also a key predictor of future research productivity. Low research self-efficacy beliefs may prove to be a factor in lack of interest in research and involvement in research undertaking. For the LIS PG students who have low research self-efficacy, they are usually not sure about their ability to perform research and do not believe that their attempt will lead to success and are often anxious, especially when they are evaluated they feel a lack of competence (Udem & Anaehobi, 2020). This was corroborated in a study that found out that postgraduate students' research self-efficacy significantly predict their academic achievement scores in research method course. Hence recommended that the better the post graduate students can manage their attitude, the more successful they can be in their post graduate programmes (Obaseki & Agu, 2019). In a related study, Kanjiani (2021) discovered that postgraduate students' research self-efficacy was "high" in using various technological means to carry out research, formulating relevant hypotheses and research questions, choosing and implementing precise sampling technique and instrument. A similar study on research self-efficacy among postgraduate students found out that postgraduate students have positive beliefs and expectations about their research self-efficacy and their potential and confidence to conduct an integrated research that includes the definition of research, the theoretical framework, previous studies, research methodology and procedures, presentation, interpretation and discussion of results, conclusions, recommendations, proposals and documentation, as well as their ability to bear research responsibility and their positive perceptions of facing difficulties, and perseverance to complete scientific research on time (Abd & Al-Atabi, 2023).

Another study that focused on doctoral students research self-efficacy found out that the doctoral students were absolutely confident in designing a study methodology that will answer their research questions, ensuring that the data collection is reliable across the entire process, drawing conclusions on the basis of the findings of a research study, and the level of research self-efficacy of the doctoral students in universities in Ogun State, Nigeria was high (Adekunle & Madukoma, 2022). Furthermore, a study on Postgraduate Students' Perceptions of Research Self-Efficacy also found out that the research self-efficacy of the students had a high impact on their academic creativity (KOMŞU, 2021). Literature has showed that research self-efficacy can be

linked to gender either positively or negatively. This was corroborated in a study on research self-efficacy and its relationship with academic performance in postgraduate students of Tehran, the study found out that there was no significant difference in research self-efficacy score of students due to gender (Tiyuri, Saberi, Miri, Shahrestanaki, Bayat, Salehiniya, 2018). In a related study the found out that gender and research self-efficacy did not significantly predict research outcomes (Sasson & Miedijensky, 2023).

### **Research Competence of Postgraduate Students**

Research competence is the knowledge, skills and ability to carry out research in a particular field. Therefore, research competence is a crucial skill for postgraduate students, regardless of their field of study. Developing research competence by the postgraduate student requires a combination of training, support, and practical experience (Adeyeye & Ayodele, 2023). This was ascertained in the study of Yusof, Supie and Ismail (2021) that examined the level of research methodology competence of master and doctoral research students in education after attending a series of research methodology courses. The study found out that both groups (Masters & Ph.d) have difficulties in quantitative research concepts specifically on research design, sampling, and data collection topics. Also, in a longitudinal study on developing research competence in postgraduate students the study found out that that postgraduate students demonstrated significant improvement in research competence over the course of their graduate programs. Factors such as prior research experience, quality of supervision, and engagement in research-related activities were found to positively influence the development of research competence (Smith & Johnson 2015). In a related study on research competence of LIS PG students, the study found out that the PG students had ability to define a research problem, formulate research objectives/questions/hypotheses, develop conceptual model, explain the significance of the study, write the statement of the problem, write an abstract, confidently develop background to the study in any research work. The study further found out that the level of research competence was high in the factors of usefulness of research and the positive predispositions to research (Afolabi, Afolabi, Aragbaye, 2022).

There is evidence to show that the performance of both masters and PhD students in research method course has been consistently poor (Obaseki & Agu, 2019) likewise in their research. Poor performance in research methodology course implies that students are yet to come to terms with the basic principles of research and are unlikely going to fare well in carrying out research especially in the area of thesis writing. In a related study on research competency of postgraduate students of public universities in Lagos State, Nigeria, the study found out that the methodological skills among postgraduate students of universities in Lagos State is high in terms of their ability to analyse data or information relevant to the project (Adeyeye & Ayodele, 2023). Similar study using masters and Ph.D. students found out that the PG students affirmed that they found it difficult in performing the following task such as generating a research topic, Writing the background of the study coherently, articulating and stating the problem of the study concisely, organising the literature reviewed, identifying and articulating conceptual and theoretical framework, selecting appropriate population, sample and sampling technique, developing instrument for data collection, establishing reliability of the instrument, collecting data, analysing the data and making use of appropriate statistical tools, discussing the findings of the study based on specific purposes and literature reviewed, drawing conclusions from the findings and making appropriate recommendations from the study (Ugwu, Ifeanyieze & Agbo, 2015).

## RESEARCH METHODS

Descriptive survey design was adopted for this study. The population of this study comprised of all the postgraduate students of Library and Information Science (LIS) in South-West, Nigeria for the present academic session in the various institutions in 2021/2022. However, only University of Ibadan (UI), Oyo State, Babcock University, Ilisan, Ogun State, Tai Solarin University of Education (TASUED), Ogun State, Lead City University, Ibadan, Oyo State, Federal University of Agriculture (FUNNAB), Abeokuta, Ogun State and Adeleke University, Osun State offers LIS at PG level as at the time of this study in South-West, Nigeria. This study made use of total enumeration to capture the entire two hundred and eighty- seven (287) postgraduate students. The main data collection instrument was the questionnaire. The reliability of the instrument was done using by administering copies of the instrument to thirty (30) PG students of Ambrose Ali University using Google form. The Cronbach alpha coefficient was 0.89 which shows that the instrument was reliable. The statistical analysis conducted for the study are frequency count and percentages, mean and standard deviation and person correlation.

## RESULT AND DISCUSSION

### Demographic Information of the respondents

Demographic		Frequency	Percentage (%)
Universities	University of Ibadan	76	37.4
	Babcock University	45	22.2
	Tai Solarin University of Education	25	12.3
	Lead City University	34	16.7
	Federal University of Agriculture,	03	1.5
	Adeleke University	20	9.9
Gender	Male	88	43.3
	Female	115	56.7
Degrees Sought	Masters	128	63.1
	Ph.D	75	36.9
		<b>203</b>	<b>100.0</b>



### Research Question 1

What is the level of research self-efficacy of LIS postgraduate students in universities in South-West, Nigeria.

Table 1: Level of research self-efficacy of LIS postgraduate students in universities in South-West, Nigeria

Items	Very Good	Good	Fair	Poor	Very poor	Mean	SD	Remark
I can realize the problems that may contribute to the field I work in.	50 (24.6)	13 (6.4)	17 (8.4)	77 (37.9)	46 (22.7)	2.72	1.51	Moderate
I can explain my research problem through drawing the necessary relations with prior research results.	23 (11.3)	66 (32.5)	51 (25.1)	45 (22.2)	18 (8.9)	3.15	1.16	High
I believe I am sufficient in formulate hypotheses relevant to my research.	19 (9.4)	101 (49.8)	47 (23.2)	17 (8.4)	19 (9.4)	3.41	1.078	High
I can find an appropriate title to my research.	39 (19.2)	44 (21.7)	84 (41.4)	10 (4.9)	26 (12.8)	3.30	1.21	High
I can write an abstract to my research with ease.	24 (11.8)	108 (53.2)	54 (26.6)	15(7.4)	2(1)	3.67	.82	High
I can add appropriate referencing in my research, whether direct or indirect	30 (14.8)	56 (27.6)	80 (39.4)	22 (10.8)	15 (7.4)	3.32	1.09	High
I can formulate an appropriate title when writing up my research.	9 (4.4)	62 (30.5)	76 (37.4)	29 (14.3)	27 (13.3)	2.99	1.08	Moderate
I can discuss my research findings within a conceptual framework.	33 (16.3)	69 (34)	42 (20.7)	36 (17.7)	23 (11.3)	3.26	1.25	High
I can appropriately report on my analysis results.	24 (11.8)	67 (33)	75 (36.9)	20 (9.9)	17 (8.4)	3.30	1.07	High

I can choose appropriate statistical methods to test or respond to my research hypotheses.	44 (21.7)	86 (42.4)	36 (17.7)	8 (3.9)	29 (14.3)	3.53	1.28	High
I can test the validity and reliability of my research data through appropriate methods.	15 (7.4)	40 (19.7)	45 (22.2)	78 (38.4)	25 (12.3)	2.71	1.14	Moderate
I can choose the appropriate data collection method necessary for my research.	17 (8.4)	62 (30.5)	71 (35)	36 (17.7)	17 (8.4)	3.13	1.07	High
I can decide which approaches to use for my research problem, be it quantitative or qualitative, or self-standing or incorporating various approaches together.	9 (4.4)	91 (44.8)	61 (30)	29 (14.3)	13 (6.4)	3.27	.98	High
I can choose the appropriate sampling method for my research	10 (4.9)	32 (15.8)	113 (55.7)	7 (3.4)	41 (20.2)	2.82	1.08	Moderate
I can criticize the results of my research regarding research processes.	42 (20.7)	49 (24.1)	53 (26.1)	49 (24.1)	10 (4.9)	3.32	1.19	High
I systematically keep record of the results of the literature survey.	53 (26.1)	49 (24.1)	61 (30)	28 (13.8)	12 (5.9)	3.46	1.36	High
I can effectively carry out the literature survey by using various channels (internet, library, etc).	62 (30.3)	46 (30.5)	41 (20.2)	31 (15.3)	23 (11.3)	3.15	1.22	High
<b>Average Mean</b>	<b>3.25</b>							

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Result in table 1 revealed that the LIS PGS research self-efficacy was high in explaining research problem, formulating hypotheses, and writing of abstract, discussing research findings. Their research self-efficacy was moderate in selecting appropriate statistical methods and choosing appropriate sampling method. The average mean is 3.25 which is greater than the bench mark of 2.50. The implication is that the level of research self-efficacy of LIS postgraduate students in universities in South-West, Nigeria was high.

## Research Question 2

**What is the level of research competence of LIS postgraduate students in universities in South-West, Nigeria?**

**Table 2: Level of research competence of LIS postgraduate students in universities in South-West, Nigeria**

Items	Not Competent	Limitedly Competent	Moderate Competent	Competent	Very Competent	Mean	SD	Remark
Conducting a rigorous qualitative investigation in a sound fashion (e.g., credibility, dependability, rigor, and trustworthiness)	11(5.4)	35(17.2)	62(30.5)	59(29.1)	36(17.7)	3.36	1.12	High
	13(6.4)	21(10.3)	70(34.5)	72(35.5)	27(13.3)	3.39	1.05	High
Presenting a review of the literature in a clear, concise, cohesive manner	12(5.9)	22(10.8)	59(29.1)	63(31)	47(23.2)	3.55	1.14	High
Knowing ethical standards and practices in research (e.g., fabrication, falsification, plagiarism)	34(16.7)	31(15.3)	77(37.9)	36(17.7)	25(12.3)	3.06	1.2	High
Demonstrating cultural competence and appropriateness in research with human subjects (e.g., respect for people's rights, dignity, and diversity)	37(18.2)	41(20.2)	50(24.6)	46(22.7)	29(14.3)	3.05	1.32	High
Average Mean	<b>3.28</b>							

Result in table 2 revealed that the LIS PGS research competence was high in formulating The average mean is 3.28 which is greater than the bench mark of 2.50. The implication of the results from Table 2 revealed that the level of research competence of postgraduate students in universities in South-West, Nigeria was high.

### Testing of Hypotheses

*H<sub>01</sub>: There is no significant relationship between research self-efficacy and research competence of Library and Information Science postgraduate students in universities in South-West, Nigeria.*

**Table 7: Relationship between research self-efficacy and research competence of LIS PG students in universities in South-West, Nigeria**

Variables	N	Mean	SD	r	d	P-value	Remark
Research self-efficacy	201	3.25	1.7832	0.230	201	0.05	Significant
Research competence		3.28	1.0267				

Result in Table3 revealed that is a significant relationship between research self-efficacy and the research competence in the order of ( $r = 0.230$ ,  $P < .05$ ). On this premise the null hypothesis is hereby rejected and concluded that there is significant relationship between research self-efficacy and research competence of Library and Information Science postgraduate students in universities in South-West, Nigeria.

**H<sub>02</sub>: There is no significant difference in the research self-efficacy of Library and Information Science postgraduate students in universities in South-West, Nigeria based on gender.**

**Table 4: Testing for significant difference in research self-efficacy of LIS PG students based on gender in universities in South-West, Nigeria**

Groups	N	Df	Mean	SD	T	p	Decision
Male postgraduate students	88	201	57.5000	6.19603	0.374	0.542	Accept the null Hypothesis
Female postgraduate students	115		58.4087	5.87725			

The result from table 4 indicated that the t-value is 0.374, the degree of freedom (df) is 201 and  $P = 0.542$  since  $P = 0.542 > 0.05$  it implied that it is not significant. Therefore the null hypothesis was hereby accepted which implies that there is no significant difference in the research self-efficacy of male and female postgraduate students in universities in South-West Nigeria.

**H<sub>03</sub>: There is no significant difference in the research competence of male and female Library and Information Science postgraduate students in universities in South-West, Nigeria.**

**Table 5: Testing for significant difference in research competence of LIS PG students in universities in South-West, Nigeria based on gender**

Groups	N	Df	Mean	SD	T	p	Decision
Male postgraduate students	88	201	16.7045	2.73403	4.329	0.039	Accept the null Hypothesis
Female postgraduate students	115		15.7478	3.25211			

The result from table 5 revealed that the t-value is 4.329, the degree of freedom (df) is 201 and  $P=0.039$  since  $P=0.039 < 0.05$  it implied that it is significant. Therefore the null hypothesis was hereby rejected and concluded that there is significant difference in the research competence of LIS postgraduate students' in selected universities in South-West Nigeria based on gender.

## Discussion of Findings

The demographic information of the respondents revealed that majority of the LIS PG students are from the University of Ibadan (UI). This is expected perhaps because UI is the first established library school in Nigeria and it has 60% enrollment for PG programmes hence the number of PG students. The demographic information further revealed that more female are enrolled in LIS PG programmes. This corroborates the study of Igesias & Gard (2023) that the librarian occupation is currently a women-majority occupation. Additionally, the demographic information depicts that majority of the LIS PG students are master's students. This result is also anticipated because to practice as a librarian the minimum academic benchmark is a master's degree in LIS. The findings revealed that the level of research self-efficacy of LIS postgraduate students in universities in South-West, Nigeria was high in explaining research problem, formulating research hypotheses, writing abstract, discussion of findings, choosing appropriate statistical methods and literature review. This study corroborates the findings of Kanjiani (2021) that found out that the postgraduate students' research self-efficacy was high in formulating hypotheses and research questions, and choosing sampling technique. The result also revealed that the LIS PG student had moderate research self-efficacy in formulating research title, testing the validity and reliability of instrument, and choosing appropriate sampling method. This calls for concern because if a PG student cannot formulate research topic then carrying out the research may become an herculean task if deliberate effort is not made. As information professional research will become an everyday thing upon graduation hence this has be looked into. The level of research competence of LIS postgraduate students in universities in South-West, Nigeria was also found to be high in conducting rigorous qualitative research, presenting literature review, knowing ethical standards and practices. This corroborates with the findings of Adeyeye & Ayodele (2023) that found out that methodological skills among postgraduate students of



universities in Lagos State is high in terms of their ability to analyse data or information relevant to the project. However, Adeyeye & Ayodele (2023) did not examine the PGS knowledge of ethical standards and practices. The findings also indicated that there is significant relationship between research self-efficacy and research competence of Library and Information Science postgraduate students in universities in South-West, Nigeria. The findings also corroborate with Ugwu, Ifeanyieze and Agbo (2015) who concluded that the level of research competence directly related to the research self-efficacy of students. This implies that the LIS PG students with high research self-efficacy will demonstrate greater research competence. Findings from the study further revealed that there is no significant difference in the research self-efficacy of LIS postgraduate students in universities in South-West Nigeria based on gender. Additionally, there is significant difference in the research competence of LIS postgraduate students' in selected universities in South-West Nigeria based on gender.

## Conclusion

From this study it was concluded that the level of research self- efficacy of library and Information Science postgraduate student in South-West, Nigeria was found to be high. Also the research competence of library and Information Science postgraduate student in South-West, Nigeria was also found to be high especially in terms of their ability to present a review of the literature in a clear, concise, cohesive manner, ability to construct clear, concise quantitative research question and/ or hypothesis, ability to demonstrate cultural competence and appropriateness e.t.c The study further concluded there is a significant relationship between research self-efficacy and research competence of LIS PG student in universities in South-West. This finding highlights the importance of fostering students' belief in their ability to effectively engage in research activities. The research competence of the LIS PG students significantly differed based on gender. Additionally, by promoting equitable opportunities for skill development and academic advancement, institutions can empower all postgraduate students to realize their full potential as researchers, regardless of gender.

## Recommendations

1. Supervisors should be patient with students, encourage the female students the more to improve their self-efficacy for research, guide, and counsel them in critical areas by so doing, their competency in research writing will improve.
2. The study recommends that LIS PG students should be made to engage in real-world research projects, this will allow the students to apply theoretical knowledge in practical settings, thereby reinforcing their confidence and competence in research endeavors.
3. Encourage collaborative research projects among postgraduate students to provide opportunities for peer learning and shared experiences. Collaborative work can enhance self-efficacy by fostering a sense of competence and achievement through collective effort.
4. The study also recommends that research methods lectures should be practical oriented than mere theory. This will expose the PG students to the practicality and application of the course.
5. The study further recommends that there should be established mentorship programs where experienced researchers or faculty members can provide guidance and support to

postgraduate students in the faculties. Mentorship will not only fosters research skills but also boosts self-efficacy through positive reinforcement and constructive feedback.

6. The study still recommends that universities should foster an inclusive and supportive research environment that values diverse perspectives and experiences which will contribute to closing the gender gap in their research competence.

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