

The Influence of Postgraduate Students' Personal Characteristics on Their Research Output in Public Universities in Kenya

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Abstract

Research is a core function of universities and as such modern universities are expected to be generators of new knowledge through research. The problem of low research output in universities has been a subject of public debate and academic discourse in the recent years. Postgraduate's contribution in research is critical since they form the greatest constituency of research students in universities. Based on a study conducted in Kenya's Moi University, specifically in the Faculty of Education, this paper examines the influence of postgraduate students' personal characteristics on their research output. The study employed a descriptive survey design and used stratified random sampling and purposive sampling to select participants. It involved all 4 departments within the School of Education. A total of 285 postgraduates were selected out of an accessible population of 1148. Eight (8) postgraduate alumni and three (3) HODs were also included in the study. Data was collected using questionnaires, interview schedules and document analysis. Data was analysed qualitatively and quantitatively. The personal attributes that accounted for the low research output were mainly the poor attitude and lack of interest in research by postgraduates. It was also observed that low research skills experience and training too significantly lowered research output. The research recommends that the university reviews its research policies to adequately respond to postgraduate's research needs and to seriously interrogate postgraduate students' research output and their contribution to knowledge creation.

Keywords: Postgraduate Students, Personal Characteristics, Research Output, Public Universities, Kenya

1. Introduction

The term research output has not been defined by many researchers; however, there is no universally accepted definition. In most cases, research output and research productivity have been used to mean the same thing. Williams (2003) notes that research productivity could be defined in terms of research product and research effort to the extent of which a researcher produces. Research in itself is defined as a careful study of a subject, especially to discover new facts or information (Kenya, Moi University Research Policy, 2008). Productivity means the total production compared with inputs or consumption over the same period of time, which serves as a measure of whether the producer's production processes are working efficiently (Wetzel, 1999). When the two words are combined as 'research productivity', a single definition becomes more difficult in a research environment because different people have divergent views about its meaning.

Research productivity has been defined as the relationship between the outputs generated by a system and the inputs provided to create those outputs. It may also include the term 'efficiency' and more importantly 'effectiveness', which measures the total output or results of performance (Turnage 1990). According to Print and Hattie (1997), research productivity is the totality of research performed by academicians in universities and related contents within a given time period. Research productivity is an outcome measurement of scholarly effort (Kurz *et al.*, 1989). On a broader perspective productivity can include research publication in professional journals and in conference proceedings, writing a book or chapter, gathering and analysing original evidence, working with post-graduate students on dissertations and class projects, obtaining research grants, carrying out editorial duties, obtaining patents and licences, writing monographs, developing experimental designs, producing works of an artistic or creative nature, engaging in public debates and commentaries (Creswell, 1986).

1.1 The Role of Research in Kenya Education Systems

The Kenya Government considers research very critical and fundamental in the overall development of the nation. This is widely acknowledged by a variety of Government documents (Kenya, Ministry of Planning, 2007; Kenya, Ministry of Education, 2005a). Currently, Kenya is in the process of developing a comprehensive research policy (Migosi *et al.*, 2010). The need for such a guideline needs not be over-emphasized. The growth of higher education in Kenya in the last two decades has been spectacular (Migosi *et al.*, 2010). The number of students enrolled for undergraduate programmes increased from 91,541 in 2005 to 170,000 in 2009 (Kenya, Ministry of Higher Education, 2009). This represents 85.7% increment in student population. The result was increased teaching responsibilities on academics leaving them with little time for post-graduate supervision and research. At the same time, there was a rise in privately-sponsored programmes that rewarded academics who committed more time to teaching than research. Hourly returns for teaching were in some cases as high as US \$ 50 for teaching undergraduate courses with perverse incentive effects (Migosi *et al.*, 2010). Closely related to this was the spontaneous growth in the population for postgraduate students with various implications on

research output.

Scholarly productivity is an important determinant of academic success, utilized in crucial personnel decisions such as hiring, promotions and awarding tenure, as well as in determining an academic prestige among disciplinary peers (Joy, 2006). In addition, the scholarly productivity of a department may contribute to resource allocation within the institutions to which it belongs (Joy, 2006). Similarly, scholarly productivity of a department or individual may also contribute to overall institutional prestige and individual prestige and advancement (Joy, 2006).

1.2 Personal Characteristics of Students

These factors relate to the personal characteristics of postgraduates, and for the purpose of study, they were taken as postgraduates' attitudes and interests, research skills and experience, university of origin, strength of postgraduates' Bachelor's degrees, educational attainment of researchers' spouses, researchers' employment status, researchers' employment rank and postgraduates' biodata information (age, gender and marital status). They were included in the study in order to ascertain whether or not the individual differences in these factors translate to variance in research productivity attainments.

Personal factors have been a subject of debate in several studies on research output (Joy, 2006; Hemmings *et al.*, 2007.) The importance of personal factors in enhancing research productivity in this respect is highly demonstrated. Migosi *et al.* (2010) show that there are remarkable differences in research productivity among men and women. Age has been studied in numerous studies with conflicting results. Many studies about productivity have indicated that the relationship between career publication and age is not linear, although the overall rate of publication generally declines with age (Lertpputarak, 2008). Bland and Berquist (1997) have noticed that the average productivity of faculty seems to decrease with age; however, many senior faculty members remain quite active in research and their outcomes can be comparable to those of younger faculty members. These findings are similar to those of Toutkoushian (2006) who points out that older academics publish less because their knowledge base accumulated in graduate schools depreciate in a decade or two. However, Blackburn and Lawrence (1995) have produced contradicting results and observe that high producers produce large amount of research consistently over the course of their career, whereas initially low producers remain consistently below average.

Blackburn *et al.* (1991) state that the relationship between gender and researcher productivity has been addressed in many studies. Again, these findings are sometimes contradictory and sometimes show correlation. Many researchers insisted that males have higher levels of research productivity than women (Bailey, 1992; Vasil, 1992; Blackburn & Lawrence, 1995). Indeed, women appear to have lower achievements on nearly every indicator. Women produce fewer publications; they generally hold lower degrees, and are employed in inferior graduate schools and other places of work, and have lower rank and fewer tenured places (Blackburn & Lawrence, 1995; Vasil, 1996). Naturally, women faculty members often have family demands that compete with time to conduct research (Lertpputarak, 2008). Further, Gaertner and Ruhe (as cited in Lertpputarak, 2008) report that many women face greater work-related stress than men because they feel compelled to exceed the work performance of men. Many academic women find themselves in a male-dominated work environment, and are often dependent on male colleagues to support their mentoring and training which is necessary to be a successful researcher. However, some researchers have found that there is no gender difference in productivity (Lertpputarak, 2008). Rubin and Powell (1987) have also found no difference in publication outputs for male and females in a Social Work Faculty.

Examining marital status, married women are reported to be more productive than single women (Lertpputarak, 2008). Some studies have shown that women with children have evidenced a significant negative effect on publishing productivity (Kyvik, 1990), while others have documented either a significant positive effect (Joy, 2006) or no significant effect.

1.3 Statement of the Problem

The Government of Kenya places a lot of emphasis on the role of research in national development (Kenya, Ministry of Education, 2005a; Kenya, Ministry of Planning and National Development, 2007a). There is also clear evidence that universities share the same argument with the Government (Kenya, Moi University Research Policy, 2008). However, there is still an unacceptably low levels of research output among postgraduate students and the entire university members. As such, a number of questions emerge: Why do some postgraduate students take longer than the prescribed period to graduate? Why do graduate students fail to participate in other research activities apart from the thesis? Why do some postgraduate students portray deficiencies in defending their thesis? Why is the publication output in universities low and skewed in favour of academics? Why are Kenyan universities ranked low in the global university rankings? Why are research findings unutilized and end up in shelves?

The prevailing atmosphere in higher education institutions inhibits the university's ability to sustain and promote conditions that support research achievements. Increased demands on government and private funding, a deteriorating physical infrastructure, increased pressure on undergraduate programmes, and the removal of

mandatory retirement have raised concerns about the continued capacity of universities to maintain teaching, research productivity and service to the state (Lertputtarak, 2008). The Kenyan education system is mainly theoretical and exam-oriented and has been widely blamed for its failure to solve immediate practical problems affecting the society (Chiuri & Kiumi, 2005). Postgraduate programmes therefore should be strengthened to make them practical-oriented. This can be done through improved postgraduate research output in universities.

1.4 Limitations of the Study

Most of the records on postgraduates statistics were not updated and were not centrally kept in the main campus. The author had to travel to all the campuses to get pieces of information which was then compiled. It was quite difficult to get specific literature on postgraduate research output since most of the prior studies on research output have heavily dwelled on faculty members research productivity. It was particularly difficult to book appointments with heads of department for interview because most of them were too busy and part of the data collection period coincided with the time the lecturers were out for teaching practice assessment. The study only concentrated on a single school in one public university for the rational of finances and time. However, the study has been designed in such a way that is equally helpful to other institutions of higher learning with similar features as the studied institution. The findings of the study are therefore very beneficial to all public universities in Kenya and other third world countries, which face several resource constraints to catalyze research development.

2. Materials and Methods

The study was carried out in the School of Education, Moi University in Kenya. Moi University is located in Eldoret town, Uasin Gishu County, 310 Kms Northwest of Nairobi, the Capital city of Kenya. It lies approximately at 0° latitude and 36°E of the Greenwich meridian (0°,36°E). The School of Education has four departments, namely the Department of Educational Management and Policy Studies, Departments of Educational Psychology, Department of Educational Foundations and Department of Curriculum, Instruction and Education Media (Kenya, Moi University Strategic Plan, 2005). The school had a total population of 1148 M.Phil students at the time of study. Out of this, a sample of 285 was used for the study. This School was purposively selected because the highest number of both lecturers and postgraduate students and offers its M.Phil programmes in full-time and part-time modules.

This study adopted a descriptive survey research design to investigate the factors that influence research output among postgraduate students in the Kenyan public universities. The approach sought to collect data without manipulating the research variables or the respondents in an attempt to find out the research output levels as it were at the studied institution. The continuing M.Phil students, postgraduate alumni and heads of departments from the School of Education of Moi University formed the target population for the study. All the four departments were used to provide the required population.

Stratified random sampling technique was used to classify post graduate students. Two levels of stratification were used. The first level involved grouping postgraduates in terms of their departments. The second stratification involved grouping postgraduates in terms of their gender. This technique identifies subgroups in the population and their proportions. The sample size for the study consisted of 285 postgraduate students out of a total population of 1148. Out of the 285 questionnaires distributed, 246 copies were retrieved representing 86.3% return; of this, 240 copies (84.2%) were properly completed and used. Eight postgraduate alumni were also randomly drawn to serve as sample members in the study. Three heads of departments were also randomly drawn to take part in the study in order to provide crucial information on departmental and institutional factors that enhance research productivity of postgraduate students.

The data collection instruments for the study were questionnaires, interview schedules and document analysis. At the end of data collection, the information collected from the postgraduates was critically examined by the author. Coding was then done manually. The analysis and presentation involved the use of descriptive statistics. The descriptive statistics used were the percentages, bar charts, pie charts and graphs.

3. Results and Discussion

In order to determine the personal characteristics that influences the level of postgraduate's research output, the study looked into the following aspects: postgraduates' attitudes and interests in research, postgraduates' research experience, skills and training, postgraduates' university of origin, postgraduates' Bachelor's degree classification, the academic qualification of the postgraduates' spouse, postgraduates' personality, postgraduates' employment status, postgraduates' scholarship status and postgraduates' biodata aspects (age, gender and marital status).

3.1 Attitude and Interest

Attitude and interest towards research can be the best prediction of research productivity (Lertputtarak, 2008). Lertputtarak (2008) has investigated the factors related to academics research productivity in Thai public universities and concludes that it is the attitude of lecturers themselves towards research that causes an innate

obstruction to their motivation. In this paper, the attitude and interest of postgraduate students towards research is examined. As shown in Figure 1, the research sought to find out why postgraduates were currently doing research in order to determine their attitude and interest towards research. The findings were as presented in Figure 1 below.

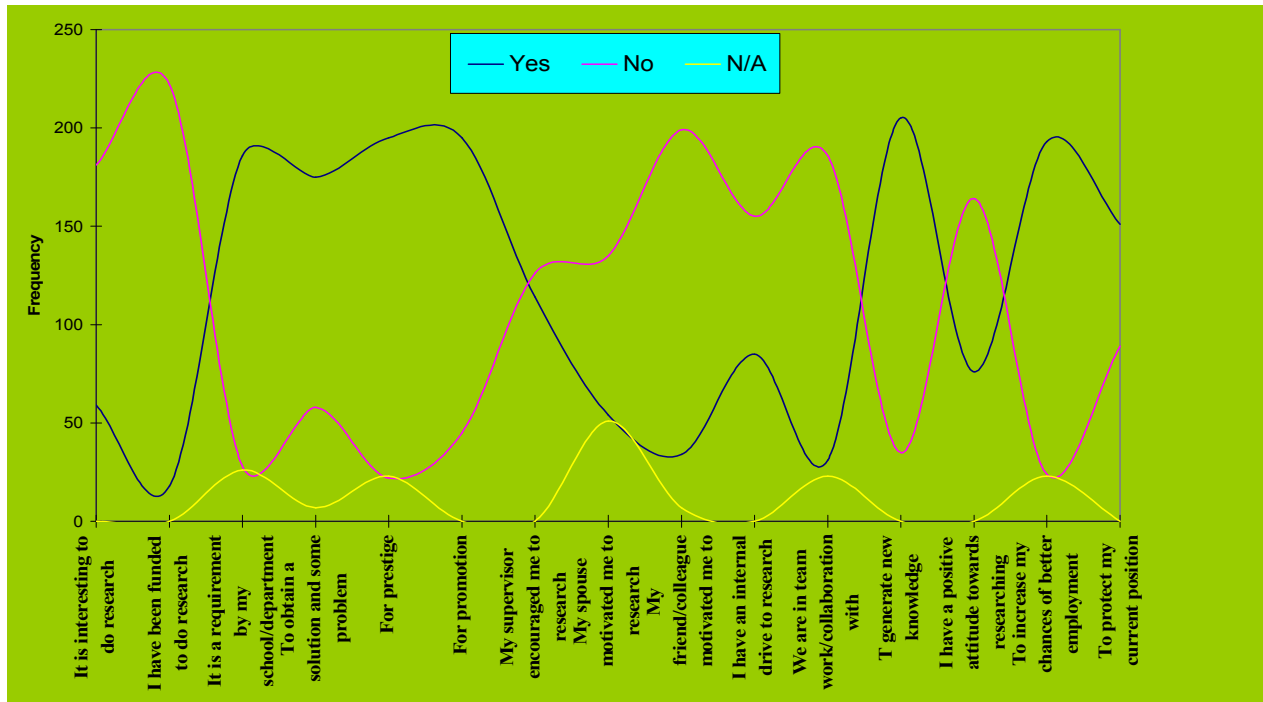


Figure 1: Why postgraduates were currently doing research

As shown in Figure 1, 181(75.4%) of the respondents pointed out research was not interesting. A total of 85(35.4%) had an internal motivation of doing research while 64.6% were not motivated to do research. Only 76(31.8%) had a positive attitude towards research and 164(68.3%) acknowledged that their attitudes towards research was negative. Of great concern was the way the responses were given. According to the findings in Figure 1, 77.5% of respondents were doing research as a departmental requirement for conferment of degrees while 195(81.3%) were involved in research for prestige and still another 195(81.3%) were doing research in order to increase their chances of promotion. Furthermore, a total 193(80.4%) were involved in research in order to increase their chances of better employment.

The same figure also shows that 151(62.9%) of the respondents were actively involved in research so as to protect their current positions in work places while 205(85.4%) were doing research so as to generate new knowledge. The above findings were in agreement with the comments made by Dr Changach, the HOD EDF, that postgraduates enroll for M.Phil programmes because of peer pressure and the prestige of having a Master's degree but not because they are focused and prepared for the study. It is thus apparent that the reasons for indulgence in research by postgraduates are mainly for their own personal developments or because of external pressures from the university or from their employer but their attitudes and interest towards research are low. Therefore, that given opportunity most of the postgraduates would not wish to do research.

Table 1 below shows the respondents' opinions on factors related to research in a Likert differential scale. Five options were given, namely strongly agree (SA), agree (A), disagree (D), strongly disagree (SA) and don't know (DK). A total 167(69.9%) strongly agreed that they fear indulging in frequent researches because of criticisms and fear of failure which will destroy their motivation. Through the interview with Dr Kindiki, the HOD EMPS it emerged that the students have positive attitude at first but the prevailing conditions slowly erodes their attitude.

Most of the students have a positive attitude but there is a laxity in the departments because there is no layout programme of receiving them, orientation and or being told of their expectations. Shortages of lecturers' makes students get inadequate content in research methods I & II. They develop negative attitudes due to inadequate skills and they feel research is hard.

It is thus clear that because of lack of interest and negative attitude towards research, postgraduates have a low research output. These findings are similar to those of Rathani (1993) who pointed out those lecturers who have a positive attitude towards research produced more whereas those who had negative attitude produced less.

Test variable	SA	A	D	SD	DK	Total
The course research design and methodology is very effective in inculcating research skills in the learners	40(16.7%)	24(10.0%)	120(50.0%)	45(18.8%)	11(4.6%)	240(100%)
Conducting research is difficult	115(47.9%)	88(36.7%)	37(15.4%)	0(0.0%)	0(0.0%)	240(100%)
It is difficult for M.Phil students to graduate within two years	80(33.3%)	125(52.1%)	35(14.6%)	0(0.0%)	0(0.0%)	240(100%)
I can successfully conduct research independently	21(8.8%)	27(11.3%)	151(62.9%)	41(17.1%)	0(0.0%)	240(100%)
Students supervised by professors produce quality work than those supervised by non-professor lecturers	11(4.6%)	0(0.0%)	91(37.9%)	138(57.5%)	0(0.0%)	240(100%)
I don't indulge in other research proposals/activities because of criticisms and fear of failure	167(69.6%)	33(13.8%)	23(9.6%)	17(7.1%)	0(0.0%)	240(100%)
A part from research design and methodology offered to postgraduate students, the university has other programs aimed at instilling research skills	29(12.1%)	151(62.9%)	34(14.2%)	26(10.8%)	0(0.0%)	240(100%)
My research progress has been interrupted by poor mastering of statistics	41(17.1%)	156(65.0%)	20(8.3%)	23(9.6%)	0(0%)	240(100%)
Total	504(26.3%)	604(31.4%)	511(26.6%)	290(15.1%)	11(0.6%)	1920(100%)

Table 1: Postgraduate's Attitude towards Research

3.2 Research Experience, Skills and Training

Research is a delicate activity, which requires professional knowledge and skill to successfully conduct and produce valid and reliable results. This study investigated research output of M.Phil students. This is their first research exercise and their skills and experience are still limited. Lertputarak (2008) argues that persons who have more experience can see the world in a wider way than those with less experience. The low research output was thus due to their low research skills and experience. As shown in Table 2 and Figure 2, the research sought to know the postgraduate's profile in order to establish their prior knowledge and experience in research.

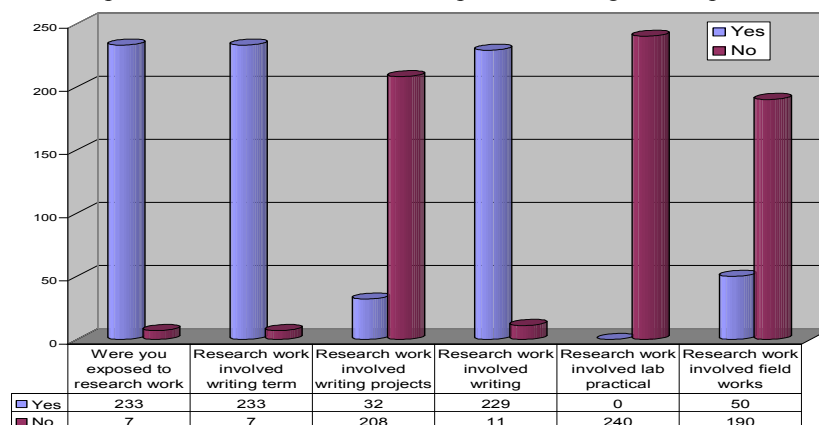


Figure 2: Respondent's Exposure to Research at Undergraduate Level

According to the findings shown in Figure 2, 97.7% of the respondents were exposed to research work in their undergraduate studies. However, the research only involved writing term papers (97.1%), projects (13.3%), fieldworks (20.8%), citations and reference writing (95.4%). As shown in Table 2, the author sought to know the effectiveness of the course research design and methodology offered by the university in inculcating desirable research skills and the findings showed that the course failed to instill effective research skills on the new researchers. A total of 68.8% felt that the research courses offered in the university did not instill desirable research skills to the learners while 26.7% found out the research courses to be effective in imparting good research skills to the learners and another 4.6% were unable to make any judgment on the suitability of the research courses offered by the university.

To further illustrate the low research skills and attitude, Table 2 shows that 151(80%) of the respondents believed that they could not conduct research independently. This implied that their research skills and experience were limited and they still needed assistance. Still as shown in Table 2, the research wanted to find out whether there existed other programmes in the university aimed at instilling research skills on the learners apart from the courses offered by the university. A total of 211(87.9%) pointed out that the university had no other programmes of imparting research skills on the learners. Thus low research experience and skills has a large influence on low research output of postgraduates in the School of Education.

Closely related to the low research skills is the poor mastery of statistics by the postgraduate students. Many statistical operations are required in describing data and establishing relationship between variables in

researching. According to Table 2, a total of 197(82.1%) claimed to have a poor mastery of statistics. This is largely due to the nature of the subjects they did in their undergraduate programmes.

On interviewing the postgraduate alumnae some revealed that majority of the M.Phil students copy exams, especially on research design and methodology by sitting close to those who have good mastery of statistics and later own reward them on monetary terms. However, it became difficult to clearly, establish the amount they would pay to be assisted during the examination period. According to the HOD, Management and Policy Studies, the inadequate skills arise from two main areas: Firstly, students are taught a small content in research methods I & II. The knowledge in research methods I is not appropriately linked to research methods II. The students find it difficult to link and they mystify the course as hard. Secondly, is the attitude towards Mathematics. Most of the students had a poor background in Mathematics. The course should therefore begin from simple to complex and more hours should be allocated to research methodology. It is thus clear that the low research skills and experience by the postgraduates is an important factor explaining their low research output.

3.3 University of Origin

University origin in this the study referred to the institution where the postgraduate students received their Bachelor's degrees. It has been shown that the university of origin influences the research productivity of academicians (Lertpputarak, 2008). However, there is no evidence on whether or not it is the case for postgraduates. According to Lertpputarak (2008), academic origin influence productivity since high status academic institutions, enjoy advantage in terms of resources and research support that encourage publication.

Table 2: Postgraduates University of Origin

Name of university	Frequency	Percent	Cumulative Percent
UoN	36	15.0	15.0
KU	37	15.4	30.4
MOI	46	19.2	49.6
MASENO	28	11.7	61.3
MASINDE MULIRO	26	10.8	72.1
EGERTON	29	12.1	84.2
BARATON	14	5.8	90.0
CATHOLIC	24	10.0	100.0
Total	240	100.0	

As shown in Table 2, a total of 36(15.0%) of those taking M.Phil obtained their Bachelor's degree from the University of Nairobi, 37(15.4%) originated from Kenyatta University, 46(19.2%) were from Moi University and 28(11.7%) were from Maseno University and still another 26(10.8%) were from Masinde Muliro, 14(5.8%) were from University of Eastern Africa Baraton and 24(10%) were from Catholic University of Eastern Africa.

Information from the postgraduate office showed that in all the cases, the research output was low showing that the university of origin did not affect the research output. Therefore, there are other factors, which account for the low research output of the postgraduates.

3.4 Classification of Bachelors Degree

The research sought to establish the classifications of the postgraduate Bachelor's degree to establish whether the strength of bachelors' degree in any way influenced research output. Universities emphasize the strength of Bachelors' degree as criteria for admissions for M.Phil studies. Normally, in their advertisement for M.Phil applications, the qualifications is a second upper or more or a second lower with two years experience.

Table 3: Classification of Postgraduate's First Degree

Classification	Frequency	Percent	Cumulative Percent
First class honors	24	10.0	10.0
Second class upper division	198	82.5	92.5
Second class lower division	18	7.5	100.0
Total	240	100.0	

As shown in Table 3, a total of 24(10%) of those enrolled had first class honors, 198(82.5%) had second-class honors upper division while 18(7.5%) had second class lower division. On examining the work produced by those who had varied degree classification, we cannot exactly justify that those with better bachelors' classification produced quality work. Therefore, the research output is independent of variations in Bachelors' degree classifications. This is because research is a new area that begins at postgraduate level and has minimum relationship with content thought at undergraduate level.

3.5 Academic Qualification of Spouse

Lertpputarak (2008) has found that lecturers whose spouses have higher academic qualifications portrayed higher research productivity because they receive support and encouragement from their spouses. Table 4 below shows the qualifications of spouses of M.Phil students.

Table 4: Academic Qualification of Respondent's Spouses

Qualification	Frequency	Percent	Cumulative Percent
Doctorate	39	16.3	16.3
Masters	28	11.7	27.9
Bachelors degree	81	33.8	61.7
Diploma	11	4.6	66.3
Certificate	7	2.9	69.2
Not Applicable	74	30.8	100.0
Total	240	100.0	

From the table 4, 39(16.3%) of the respondents spouses were PhD holders, 28(11.7%) had their spouses with masters degrees, 81(33.8%) had their spouse with Bachelor's degrees. A total of 11(4.6%) were married to Diploma holders while 7(2.9%) were married to Certificate holders and 74(30.8%) were not applicable (either single or widowed). According to the HOD Educational Foundation, majority of the married women had their spouses having higher academic qualifications than they do. Married men had most of their spouses having equal or lower academic achievements. Information obtained from administrators office school of education revealed that eight students enrolled in 2008 managed to graduate in 2010. The author tried to trace their background and found out that two of them were spouses of lecturers in the university. This shows that the level of academic qualification of the spouse can positively raise research output.

3.6 Personality

According to Lertpputarak (2008), personality is one of the factors that influences the willingness of individuals to do or not to do research. When the respondents were asked to mention the characteristics of a good researcher, the following features were highlighted to describe good researchers:

- Creative
- Confident
- Open minded
- Curious
- Flexible thinker
- High intellectual abilities
- Makes sacrifices of time
- Patient
- Willing to learn
- Visionary
- Observant
- Inquisitive
- Good communication skills

On interviewing the postgraduate alumni, it was clear some postgraduates lacked the researchers' personality traits.

I have some colleagues we enrolled together in 2001 yet they have not graduated. They don't have the personality of good researchers. They are poor in searching for information. They do not like asking questions and are easily discouraged on the way. To be successful researcher means you must be tough and endure in all situations.

Lertpputarak (2008) has found that the low research productivity among Thai university lecturers is because most of them do not have the researcher's personality. Researchers who lack the researcher's personality have been described to be ignorant on what they like and on what field they want to be well known (Lertpputarak, 2008). This applies especially to new researchers and in such cases, experts should assist them to learn and guide them on how to think. However, in a university where the experts are very busy in teaching and performing other administrative obligations the existing systems do not assist this new generation of researchers to learn how to think. Therefore, the observed low research output of graduate students can partly be explained by their lack of researcher's personality.

3.7 Employment Status

Employment status can affect research productivity positively or negatively. On the positive note, it is a source of income that can be used to finance research activities. On the negative, the work demands compete for time with research. In the study, the author sought to find out the employment status of the respondents with the view of establishing its relationship with their research output. The results were as shown in Table 5 below.

Table 5: Employment Status of Respondents

Status	Frequency	Percent	Cumulative Percent
Employed	227	94.6	94.6
Unemployed	13	5.4	100.0
Total	240	100.0	

As shown in the table above, 227(94.6%) of the respondents were employed while 13(5.4%) were unemployed. On inquiring into the levels of their research output through interviews with the HODs and from the records available, the study found out that those employed had a remarkably higher output than the unemployed individuals did. This is because the unemployed want to complete their studies and secure employment while those already employed are complaisant and have no eagerness in completing their studies.

3.8 Rank

Rank or position held in work can be a significant predictor of research output of postgraduates because those postgraduates in higher employment rank have more control of their work schedules and workload enabling them to commit most of their time to research. Since the School of Education was used as a case of study, most of the respondents were classroom teachers, deputy principals, principals or officials in the ministry of education. Table 6 below shows the ranks of the respondents.

Table 6: Rank Status of Postgraduates

Rank/status	Frequency	Percent	Cumulative Percent
Classroom teacher	104	43.3	43.3
Deputy principal	67	27.9	71.3
Principal	49	20.4	91.7
Officers in the Ministry	7	2.9	94.6
N/A	13	5.4	100.0
Total	240	100.0	

From the table above, majority of the respondents, 104(43.3%), were classroom teachers, 67(27.9%) were deputy principles, 49(20.4%) were principles while 7(2.9%) were officers in the ministry. On inquiry into their research output, in all the cases the output was low suggesting that the rank held in employment did not influence research output.

3.9 Scholarship

Scholarship can exert a positive influence on research output because the financing institution will settle the financial obligations due to the student. The student will therefore operate without any interferences or restrictions due to fee balances.

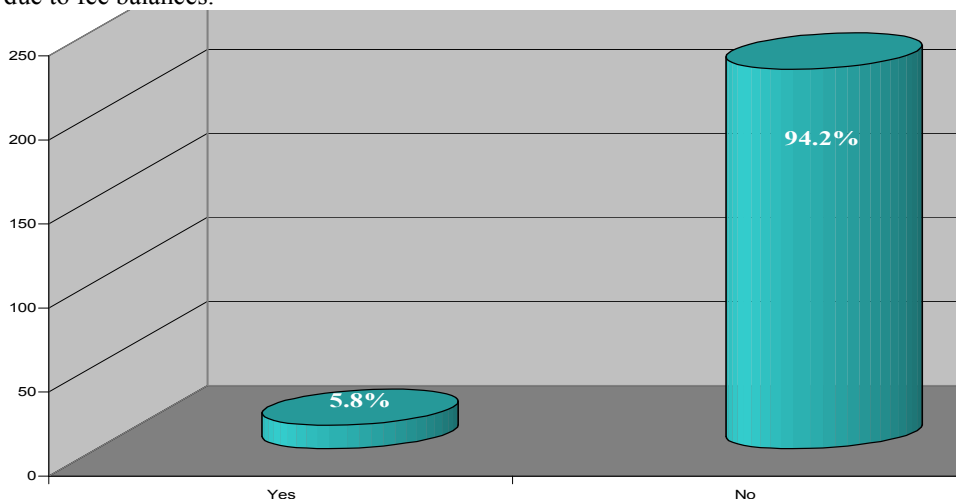


Figure 2: Postgraduates Responses on their Scholarship Status

In Figure 2, only 5.8% of the students were under scholarship while 94.2% were not under any scholarship. The research further wanted to know the source of the scholarship for those students under the scholarship. Table 7 below shows the results.

Table 7: Source of Students' Scholarship

Source of scholarship	Frequency	Percent	Cumulative Percent
HELB	7	2.9	2.9
Financial institutions	7	2.9	5.8
N/A	226	94.2	100.0
Total	240	100.0	

From the table, 7(2.9%) received their sponsorship from higher Education loans Board (HELB) and another 7(2.9%) were sponsored by financial institutions such as banks. Therefore, 14(5.8%) of the students were under scholarship. The study found out that those under the scholarship had a steady progress in the projects. This suggests that scholarship or financial support to the students has a boosting effect on their research performance.

3.10 Postgraduates' Bio data

Postgraduate bio data in the study comprised age, gender and marital status.

3.10.1 Age

Several researchers in the past have studied the relationship between age of the researcher and research output with conflicting results. Toutkoushian (2006) observe that the declining publication output among older academicians is explainable by the fact that the knowledge base accumulated in graduate school depreciates over a decade or two. Earlier works by Blackburn and Lawrence (1995) have shown there are no relationships between age and productivity.

From the background information, majority of the respondents were aged 35-44 (49.2%) followed by those aged between 25-34 years (42.1%); those above 44 years were only 5.8% and those below 25 years were only 2.9%. On examining their research outcomes, it appears that for this study age had no impact on the level of postgraduates' productivity. These findings are similar to those by Williams (2000) who has studied academic lecturers in Human Development Faculty in the USA and found that there is no significant relationship between age and research productivity. Thus, the observed low research output among postgraduates in Kenya is independent of the postgraduates' age.

3.10.2 Gender

Numerous studies on the relationship between gender and research output have been done in the past. Some studies show a positive correlation while others show divergent relationships. A study by Maske *et al.* (2008), for example, show that men are more prolific in their early careers but women publish more as they mature. Earlier work by Bailey (1992) has shown that on average men had higher research productivity than women. One possible explanation to this by Creamer (1998) is that women often have family demands that compete with time to conduct research.

From the background information, there were more females enrolled for M.Phil studies (53.8%) than males (46.2%). On investigating the levels of productivity, there was no evidence to suggest a relationship between gender and research output as both male and female students had equally low research output.

3.10.3 Marital Status

Several studies in the past have addressed the issue of the relationship between marital status and research output. Again, the findings are in some cases contradictory and in some cases show correlation. Kyvik (1990) observe that married lecturers especially women who have children have evidenced a significant negative effect on publishing productivity. Lertputarak (2008) points out that marital status can be a supportive factor and that married women were more productive than single women were. The study found out that married women whose husbands were university lecturers tend to produce quality work within the specified time bounds. This is because they receive support and encouragement from their spouses. Thus, marital status is a supportive factor for married postgraduates who are women.

4. Conclusion and Recommendations

It should be noted that research output is not only important avenue to successful conferment of M.Phil degrees to students; it is also important for enhancing institutional reputation and economic status. According to Lertputarak (2008), an increase in research productivity leads to high prestige for the institution. The personal attributes that accounted for the low research output were mainly the poor attitude and lack of interest in research by postgraduates. It was also observed that the low research skills experience and training too significantly lowered research output.

From the observations on research funding, it is suggested that the university should provide a more balanced research funding between lecturers and postgraduate students. Currently, the funding opportunities are skewed in favour of academicians and postgraduates are not directly eligible to apply for funds from the university. It is recommended that a certain fraction of URF should be set aside for postgraduates with competitive projects of national importance. A panel may be constituted comprising faculty members to vet students' projects to be funded. Students should also be assisted to source for international research funding.

There was a general dissatisfaction by postgraduates on the timeliness in assigning of supervisors. Currently, the School of Education allocates supervisors to students at the end of the first semester of first year. The students only have four months to develop their research problem, compile literature review and to write a proposal. Besides, these students have other work obligations. It is therefore suggested that the supervisors are assigned to students' immediately on admission and that the supervisors should guide students on how to think and come up with good research problems. Furthermore, the students should be well instructed on how to search for information and all the available avenues of getting information be brought to the knowledge of the students.

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