

Supervisory Barriers in Conducting Research at Postgraduate Level at Public and Private Sector Universities of Khyber Pakhtunkhwa

Akhtar Iqbal¹, Syed Manzoor Hussain Shah², Javed Iqbal³

¹Akhtar Iqbal, PhD scholar, Education Department, Hazara University Mansehra, KP, Pakistan

²Dean/ Chairman, Education Department, Hazara University Mansehra,
KP, Pakistan

³Assistant Professor, Education Department, Hazara University Mansehra, KP, Pakistan

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ABSTRACT

The role of research in the overall national development of a country cannot be ignored. Research plays a significant role in the overall national development of a country. The purpose of this current study was to identify barriers in the way of research in the public and private sector universities of Khyber Pakhtunkhwa, Pakistan. Eight universities (four each in public and private sector) were randomly selected as a sample for this study. The sample consisted of 640 respondents including four each from natural and social sciences disciplines. 521 responses out of 640 were received. A questionnaire comprising 50 items and one open ended question was designed. Quantitative data was analyzed by using Mean and t –test while Content Analysis Method was used to analyze data obtained through the open-ended question. The findings of the study reveal that majority of the respondents (supervisors and scholars) admit that there are five main barriers including supervisory, financial, personal, social and administrative barriers which are creating hurdles in conducting research at postgraduate level at public and private sector universities of Khyber Pakhtunkhwa. The study is focused only on supervisory barriers. A significant difference of opinions was observed in the views of the respondents of both the sectors about the role of supervisors. The nature of particular programs didn't prove to be a strong variable in producing significant change in the opinions about the supervisory barriers among the respondents of public sector universities. The status of gender didn't differentiate the two groups in their opinions about supervisory barriers in research execution. The discipline of the respondents showed similar results regarding supervisory barriers. The study concludes by identifying and comparing views of the respondents about the supervisory barriers which are creating hurdles in postgraduate research at public and private sector universities of Khyber Pakhtunkhwa as well as suggesting areas where future work might build on the findings of the study in a conducive environment.

KEY WORDS: Supervisory Barriers, Higher Education Commission (HEC), Khyber Pakhtunkhwa, Postgraduate Level Program, Public Sector, Private Sector, Supervisor, Scholar

INTRODUCTION

Research institutions worldwide contribute a lot to national economic development (Loon, 2005; Etzkowitz et al; 2000). Sanyal & Varghes, (2006) argue that universities in the developed world pay more attention to research and deem research activities as their key responsibility alongside other functions. Despite its importance, research processes face a number of issues such as supervision issues, financial constraints, lack of learning resources, limited accessibility of information, lack of progress monitoring, gender disparity and so on (Lovitts, 2001; Kohun & Ali, 2005; Maher, Ford and Thompson, 2004; Ali & Kohun, 2006, 2007; Naveda, 2009; Wao & Onwuegbuzic, 2011; Neumann, 2012). Various studies show that there is no single reason that affect research progress but there are multiple interlinked causes that lead to delay (Golde & Dor, 2001; Lovitts, 2001; Glode, 2005; Nettles & Millett, 2006).

According to Bair & Haworth, (1999) about 40 to 60 % postgraduate research scholars drop out, not been able to get their doctoral degrees. Doctoral scholars silently shift to other occupation without announcing withdrawal. Sizeable literature is available about departure of undergraduate scholars from research studies while there is a shortage of literature about doctoral scholars who leave research (Golde, 2005; Lovitts, 2001). Willis & Carmichael (2011) say that it is the internal shift in moods and thinking of the scholars due to which the worth and weight age of their doctoral degree become less important and they shift to other programs silently. Faculty members are gradually

*Corresponding Author: Akhtar Iqbal, Akhtar Iqbal, PhD scholar, Education Department, Hazara University Mansehra, KP, Pakistan

becoming aware that doctoral attrition occurs but are shocked and perplexed when they learn of their own program's high rates (Golde, 2005; Lovitts, 2001).

Research indicates that three areas can improve completion rates of doctoral candidates including institutional elements (nature of discipline, guidelines and a sense of belonging) supervision engagements (consistent feedback from both supervisor and scholar, regular meeting schedule and timely initiative) and characteristics such as discipline, entry qualifications, psychological factors (Latona & Browne, 2001). There are other researchers who found some other factors which could be connected with timely research completion including age, gender and demands of external employment, provision of direction and inspiration and indirect assistance like outside contacts and financial aid from any source (Wright & Cochrane, 2000; D' Andrea, 2002; Haksever & Manisali, 2000; Smith et al, 1993). Martin et al (2001) identify some other factors in doctoral completion rates such as gender (female has higher completion rate than male scholar) and study type (full time scholar has higher completion ratio than part-time).

There is a dire need for effective supervisory approach during the research activities of the scholar from initial to the end of thesis completion stage because scholars face lots of difficulties during the period. Supervision is very crucial element in the successful completion of research program. It is a two way interactive strategy which calls for both the scholar and the supervisor to keep one another engage with professional spirit. Supervision is a multifaceted social engagement where two individuals having diverse interests have to deal with each other. It is necessary that these varied interests must proceed in a balanced manner so that research activities can bring fruitful results (Norhasni Zainal Abiddin et al, 2011).

Studies conducted by Holbrook & Johnston, 1999; Cargill, 1998; Dysthe, 2002; Woolhouse, 2002; Armitage, 2006 and Lamm, Clerehan & Pinder, 2007, discussed multifaceted aspects of student- supervisor relationship like way of management of this relationship, the difference of their viewpoint about what they expect of each other, communicative problems, different ways of conducting process of supervision and their difference of perceiving the whole process of supervision. Mc Cormack, (2004) through his research work found out that there was a huge difference of opinion between supervisor and supervisee. Research scholars consider research pursuit from their own point of view while the supervisors have their own expectations from scholars. Resultantly, timely completion of research endeavors may get affected. Discussing the role of planning in supervision, Armitage, (2006) stressed the need of proper planning before resuming the task of supervision. The requirement of conducting planning before launching dissertation is viewed in the literature as a universal topic.

This research study is focused on the supervisory barriers keeping in view its importance in the smooth conduction of the research activities at postgraduate level programs.

Objectives of the study

This study aimed to achieve the following objectives:

- 1) To compare the opinions of supervisors and scholars of public and private sector general universities of Khyber Pakhtunkhwa about the supervisory barriers in conducting research at postgraduate level program.
- 2) To compare the opinions of PhD and M Phil scholars about the supervisory barriers affecting research activities at Postgraduate level program in Public and private sector universities of Khyber Pakhtunkhwa.
- 3) Male and female scholar's comparison about the supervisory barriers in conducting research in public and private sector universities of Khyber Pakhtunkhwa.
- 4) Comparison about the opinions of Natural and Social Sciences respondents (Supervisors and Scholars) about the supervisory barriers in conducting research at Postgraduate level in Public and Private Sector Universities of Khyber Pakhtunkhwa.

Hypothesis

H(1) : No significant difference exists among the opinions of supervisors and scholars about the supervisory barriers in conducting research at postgraduate level program in public and private sector universities of Khyber Pakhtunkhwa.

H(2) No significant difference exists among the opinions of PHD and M PHIL scholars about the supervisory barriers in conducting research at postgraduate level program in public and private sector universities of Khyber Pakhtunkhwa.

H (3) No significant difference exists among the opinions of male and female scholars of public and private sector universities about the supervisory barriers in their research at postgraduate level.

H (4) No significant difference exists among the opinions of the respondents of natural and social sciences in public and private sector universities about the supervisory barriers in research at postgraduate level.

METHODOLOGY

Population

All the MPhil/PhD scholars and their research supervisors of Public and Private sector general universities of Khyber Pakhtunkhwa, Pakistan constituted the population of the study.

Sample

A study sample of 521 respondents in three stages was carried out by using Multistage sampling technique. At the first stage, eight universities were randomly chosen out of the 30 general type public and private sector universities of Khyber Pakhtunkhwa, Pakistan. Out of the eight selected universities, 4 were selected from public while 4 from private sector universities. At second stage, 8 departments, four each from natural and social sciences were randomly selected from each university. At the third and last stage 521 respondents (research supervisors and MPhil/PhD scholars) were selected conveniently from selected departments of all the eight universities. Sample size was determined in the light of by Gay (1996) that when the population size is more than 5000, a sample size of 400 to 500 will be adequate.

Data Collection Instruments

A questionnaire which consists of two parts was developed and administered to the subjects; MPhil/PhD scholars and research supervisors. The first part of questionnaire having different independent variables viz: status of university, status of scholars, status of supervisors, and nature of department, gender, and enrollment in program according to their demographic characteristics. Part- II of the questionnaire was same for both respondents. This part of the scale consisted of 50 Likert-type items, responded on a 5 point rating scale from "Strongly agree to strongly disagree", carrying a value of 5 to 1 respectively. Items designated positively are scored by 5, 4, 3, 2 and 1 respectively. Items designated negatively are scored in the reverse manner. Omitted or invalid responses are given a score of 3 while the last one item was open-ended wherein the respondents were asked to mention at least two barriers.

Reliability of the questionnaire

For the purpose of reliability of the scale, 54 participants (27 supervisors and 27 MPhil/PhD scholars) from two universities were taken randomly from Khyber Pakhtunkhwa respectively. This number was excluded from the final study. Reliability of the questionnaire was found .82.

Data collection procedure

To obtain the opinions of the respondents through questionnaire, the selection of enrolled scholars and their research supervisors was done conveniently. The main reason for selecting this method of collecting data from the respondents was that they were all highly educated to understand questions in the printed form and were the major stakeholders who had gone through research activities at different levels and had experienced various barriers themselves.

Data Analysis

The observed data was analyzed by statistical techniques such as Mean, Independent-Samples t-test. The following mean score are presented in three different categories:

- (1) 1--2.49 = disagree
- (2) 2.50--3.49 = Agree
- (3) 3.50--5.00 = strongly agree

In order to determine the principals' instructional leadership role Enueme & Egwunyenga (2008) categorized Mean scores into four categories, which are presented in the following:

- 3.50 – 4.00 = Very high extent
- 2.50 – 3.49 = High extent
- 1.50 – 2.49 = Low extent
- 0.00 – 1.49 = Very low extent

In order to determine the difference between the views of MPhil/PhD supervisors and scholars, natural and social sciences supervisors, male and female supervisors and scholars, natural and social sciences MPhil/PhD scholars, the t-test was used. This test enables us to find out that there is any significant difference between the samples means; such typical value for the significance level set for testing null hypothesis was 0.05. For all type of research study in associated to social sciences, the alpha level of statistical significance is used at .05 (Stevens, 1996).

In order to find out the significance of difference in each aspect between the categories and also significant different within the categories, the independent Samples t-test was utilized because most of the cases are classified into two groups and a test of Mean difference was performed for specified variables Mangal (2004). Typical values which are chosen for the significance level for testing null hypothesis are .05 and .01. Means are compared for

independent samples. The open-ended statement was analyzed by frequency distribution. The SPSS statistical software package, version 16, was used to analyze the quantitative data.

RESULTS

The following tables present and describe the results of this study in detail:

Table 01. Sector wise comparison of views of supervisors and scholars about supervisory barriers:

Sector	Respondent	N	Mean	SD	t	df	p-value
Public	Supervisor	139	3.37	0.87	2.99	291	0.00
	Scholar	172	3.65	0.75			
Private	Supervisor	80	3.65	0.76	3.06	309	0.00
	Scholar	130	3.84	0.66			

Note: The result is significance if (p-value) ≤ 0.05 level

Table 1, shows that the mean score of the supervisors is 3.37 and scholars of public sector universities is 3.65 respectively at $p = 0.00$. So, No significant difference exists among the opinions of supervisors and scholars about the supervisory barriers in research completion in public sector universities. The null hypothesis stated above H(1) is therefore rejected. The above table shows that the mean score of the supervisors is 3.65 and scholars of private sector universities is 3.84 respectively at $p = 0.00$. So, no significant difference exists among the opinions of supervisors and scholars about the supervisory barriers in research completion in private sector universities. The null hypothesis that there is no significant difference between the opinions of supervisors and scholars in private sector universities about the supervisory barriers is therefore rejected.

Table 02. Sector and program wise comparison of views about supervisory barriers:

Sector	Respondent	N	Mean	SD	t	df	p-value
Public	PhD	61	3.70	0.71	0.85	167	0.39
	MPhil	108	3.69	0.75			
Private	PhD	26	4.00	0.59	1.42	128	0.15
	MPhil	104	3.99	0.62			

Note: The result is significance if (p-value) ≤ 0.05 level

Table 2, shows that the mean score of the PhD is 3.70 and M Phil respondents of public sector universities is 3.69 respectively at $p = 0.39$. So, no significant difference exists among the opinions of PhD and M Phil respondents about the supervisory barriers in research completion in public sector universities. The null hypothesis H(2) is therefore accepted.

The above table shows that the mean score of the PhD is 4.00 and M Phil respondents is of private sector universities is 3.99 respectively at $p = 0.15$. So, no significant difference exists among the opinions of PhD and M Phil respondents about the supervisory barriers in research completion in private sector universities. The null hypothesis H (3) is therefore accepted.

Table 3. Sector and gender wise comparison of views about supervisory barriers:

Sector	Respondent	N	Mean	SD	t	df	p-value
Public	Male	238	3.61	0.86	1.69	309	0.09
	Female	32	3.66	0.66			
Private	Male	147	3.72	0.71	1.55	208	0.12
	Female	63	3.89	0.69			

Note: The result is significance if (p-value) ≤ 0.05 level

Table 03, shows that the mean score of the male respondents is 3.61 and female respondents of public sector universities is 3.66 respectively at $p = 0.09$. So, no significant difference exists among the opinions of male and female respondents about the supervisory barriers in research completion in public sector universities. The null hypothesis that there is no significant difference between the opinions of male and female respondents in public sector universities about the supervisory barriers is therefore accepted.

The above table shows that the mean score of the male is 3.72 and female of private sector universities is 3.89 respectively at $p = 0.12$. There is no significant difference between the opinions of male and female respondents about the supervisory barriers in research completion in private sector universities. The null hypothesis that there is

no significant difference between the opinions of male and female respondents in private sector universities about the supervisory barriers is therefore accepted.

Table 4. Sector and discipline wise comparison of views about supervisory barriers:

Sector	Respondent	N	Mean	SD	t	df	p-value
Public	Natural science	167	3.52	0.83	0.13	308	0.89
	Social science	143	3.53	0.80			
Private	Natural science	63	3.59	0.82	2.41	209	0.01
	Social science	148	3.84	0.64			

Note: The result is significance if (p-value) ≤ 0.05 level

Table 4, shows that the mean score of the natural sciences respondents is 3.52 and social sciences respondents of public sector universities is 3.53 respectively at $p = 0.89$. So, no significant difference exists among the opinions of natural sciences and social sciences respondents about the supervisory barriers in research completion in public sector universities. The null hypothesis that there is no significant difference between the opinions of natural sciences and social sciences respondents in public sector universities about the supervisory barriers is therefore accepted.

The above table shows that the mean score of the natural sciences is 3.59 and social sciences respondents of private sector universities is 3.84 respectively at $p = 0.01$. There is significant difference between the opinions of natural sciences and social sciences respondents about the supervisory barriers in research completion in private sector universities. The null hypothesis that there is no significant difference between the opinions of natural sciences and social sciences respondents in private sector universities about the supervisory barriers is therefore rejected.

The in-depth analysis of the views of the opinions of the respondents reveals that until and unless the barriers are addressed properly, research activities can't flourish in the Province. In this situation the responsibility lies on the shoulders of HEC as well as on Provincial Government to take corrective measures and set a strong based research culture in the terrorism –hit Province of Khyber Pakhtunkhwa.

RESULTS AND DISCUSSION

The results of the study highlight that majority of the respondents (Supervisors and Supervisees) of both the Public and Private sector general universities of Khyber Pakhtunkhwa have similar concerns about the supervision at postgraduate levels which create hurdles in research activities. However, a difference exists among the views of public sector universities about the barriers which may be due to the following reasons;

- 1) Availability of research supervisors in public sector universities may be one of the causes of differences in opinions as some established universities have sufficient number of supervisors whereas there are some newly established universities where there is a shortage of supervisors.
- 2) Research scholars at postgraduate level are increasing day by day at public sector universities as compared to the available number of supervisors.
- 3) Research incentives to supervisors are not up to the academic worth of the supervisors.
- 4) Natural Science scholars have greater attachments with advisors due to the nature of research as compared to Social Sciences and Humanities' scholars. These findings are in line with findings reported by Ives & Rowley (2005).

Similar difference of opinions exist among the views of private sector universities about supervisory barriers during research work which may be due to the following reasons:

- 1) Supervisor is usually engaged part-time at university. Both supervisor and supervisee have limited time for academic discussion.
- 2) Supervisors of private sector universities are paid very low for supervision as compared to public sector universities which loses interests of the supervisors.
- 3) Private sector universities have lack of research facilities (library, laboratory and ICT) that badly affected research activities. No proper funding from government is available for developing infrastructures of these institutions.

Nature of program of the respondents (PHD & MPHIL) in both the sectors doesn't differentiate them about the supervisory barriers as they have on the same page. These findings are in line with the previous studies conducted by Philps & Pugh, 2002 and Carmichael, 2011.

Nature of gender doesn't separate the respondents of both the sectors about the supervisory barriers as they have the same views. These findings show close similarity with the studies conducted in the field by Lovitts, 2001; Oswalt &

Riddock, 2007 & CGS, 2008 who identified almost the same supervisory barriers in smooth conduction of research at doctoral level programs.

There is a complete unanimity among the respondents (Natural & Social Sciences) of Public sector universities about the supervisory barriers. These findings are in line with the study already conducted in the field by McAlpine and Norton (2006) and Muborakshoeva, (2013) who recorded the same barriers in their research work.

The data shows that there is significant difference among the views of the respondents of natural and social sciences about supervisory barriers in conducting research at private sector universities. The difference may be:

- 1) The difference of opinions among the respondents of private sector universities about supervisory barriers may exist because in some programs independent thoughts and creativity are valued while in others, persistence and hard work may be appreciated.
- 2) Social sciences tend to take more individual approach to research while basic sciences favor more team based research. Consequently, scholars of social sciences have usually less attachments with their supervisors as compared to the scholars of natural sciences.
- 3) There may be a large number of supervisors and financial support available for supervising scholars of natural sciences as compared to the disciplines of social sciences.

These findings are in line with the previous study conducted by Basset (1979); Ivankova & Stick, 2007; Nettles & Millet, 2006; National Science Foundation, 2009 and Wao & Onwuegbuzie 2011 who conducted a cross-disciplinary research studies which showed that education graduates had poor preparation of research skills prior to starting research work as compared to the scholars of other disciplines and needed to provide proper guidance and training before embarking of research.

Conclusion

The findings of the study reveal that the respondents (supervisors and scholars) are well aware of main barriers including supervisory, financial, personal, social and administrative which are creating hurdles in smooth conduction of research at postgraduate level in public and private sector universities. The present study only focuses on supervisory barriers.

Respondents of public and private sectors have almost similar views about supervisory barriers as they admit that these factors are creating difficulties in research work. However, there exists some differences among the views of the respondents of both the sectors which may be due to the availability of resources, nature of disciplines, follow-up of HEC set rules and University administrative procedures.

Findings of the study show that supervisors have some reservations about the scholars like passive attitude of the scholars, lack of comprehension, academic writing and application of statistical tools. The scholars have also reservations against the supervisors including lack of research expertise of the supervisor, administrative responsibilities, non-availability, delayed feedback, irregular meeting schedule.

The study shows that female research scholars are facing various issues related with supervision during research, like balancing domestic issues with research, facing social constraints during collection of data and attending regular meetings with the supervisor.

Recommendations

On the basis of the findings, the following recommendations are proposed to establish a conducive research environment at Public and Private sector universities of Khyber Pakhtunkhwa;

- 1) HEC should allocate sufficient funds to both public and private sector universities to set up a research friendly environment. Research related funds should be utilized effectively to get the desired results. Supervisors need to be paid with the amount compatible with their profession.
- 2) It is a dire need of the day to regularly improve the intellectual development of the research supervisors in the disciplines both of Social and Natural sciences. HEC must arrange regular workshops, seminars, symposia and short courses focusing mainly on research methodologies, techniques and research related issues confronting the researchers.
- 3) To overcome the shortage of experts in research, the HEC may hire the services of experienced national as well as international researchers to introduce innovative research methodologies to keep abreast the supervisors of new research trends.
- 4) HEC Supervisor-Scholar supervision ratio needs to be strictly followed so that the work load may be shared equally. Research and administrative responsibilities may be separated from each other in the department so that the supervisor may focus solely on research.

- 5) To maintain the international standards, the existing research facilities at public and private sector universities be upgraded by equipping the labs and libraries with hi-tech state of the art scientific equipment, updated reference books, journals for citation and Information and Communication Technology(ICT) facilities.
- 6) HEC needs to induct more faculty through its Interim Placement Program in both Public and Private sector Universities to overcome the shortage of supervisors.

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