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Factors Affecting Postgraduate Students' Research Performance: Evidence from Pakistani Universities

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Abstract

Certain factors affect postgraduate research performance and success. These factors include personal factors, supervisory factors, institutional factors, and social support. The study at hand attempted to study these factors and delineate its correlation with research performance of students. The study was conducted using positivist methodology. Data was collected through a well thought questionnaire. The Questionnaire consists of various sections as per variables of the study. The study draws upon quantitative data collected from M.Phil. and students. A total of 141 students enrolled in various universities were contacted for data. The data was analyzed with the help of correlation test. Keeping in view the objectives of the study and nature of the data, correlation was the most suited statistical test. The major finding of the study is there is weak correlation between personal factors and research performance of students. Personal factors (socio-demographic, personality, competence, and efficacy) affect research performance of students. Our study found no correlation among supervisory factors and institutional factors with research performance of students. Moreover, no correlation was found between social support and research performance of students. Based on the study findings we recommend that students should properly assess themselves before embarking M.Phil. and PhD studies. If they are not fully trained/ prepared and committed to study to post graduate studies, they should not enroll in such programs. Universities should also reconsider their entrance/ aptitude tests and interview process. They should properly assess them before enrolling students. It should be made sure that eligible, motivated, and committed students are selected. This process will minimize chances of potential dropout of students. This will save time and resources of both university and students.

Key Words: *Attrition, Problematic Candidature, Postgraduate Studies, Research Efficacy, Social Support, Supervisory Factors, Thesis blocker.*

Introduction

Issues and problems in postgraduate research are one the least explored area in Pakistan. Academic literature is scarce on issues in postgraduate research in the Pakistani context. Fewer studies have been conducted to

investigate factors that affect postgraduate research performance (e.g Ali, Sannauddin & Ullah,2019; Saleem & Mehmood,2017; Saleem & Mehmood,2018; Sarwar, Shah & Akram, 2018). This handful of studies has certain methodological limitations. These studies mainly focused on supervisor's related issues. Secondly, these studies did not simultaneously determine how much critical these are to academic performance of postgraduate students. Moreover, it is not investigated that which of these factors is of crucial importance. Lastly, the role of social support in postgraduate is not subjected to investigation in the Pakistani context. The study at hand is a comprehensively covers factors like students' factors, institutional factors, supervisor factors that affect Postgraduate research performance. In addition to the association of social support factors are ascertained with postgraduate research performance.

Currently, there are 214 universities in Pakistan (Higher Education Commission, Pakistan,2020). With this quantitative growth, the influx of M.Phil and Ph.D. has also increased. This increase has brought serious questions on teaching quality and supervision quality/ practices (Ali, Ullah & Sanauddin, 2019). Moreover, not everyone is fit for postgraduate studies. Some postgraduate students may have "*Problematic Candidature"* (Cantwell et al., 2012). Problematic candidature refers to shortcomings or weaknesses that are within the student, and which may impede progress, and diminish the quality of the final product. In certain cases, students encounter "*Thesis Blocking"*. Students take more time to graduate than stipulated time due to non-completion of thesis. This phenomenon is deemed to be 'thesis blocking' by (Akparep, Jengre & Amoah, 2017; Rennie & Brewer, 1987). In certain cases, thesis blocking results in attrition/dropped out.

It is a matter of observation that postgraduate students provide justification for their delayed/ prolonged time of the degree and sometimes blame everything/everyone other than them. It is also observed that in certain cases postgraduate students do not perform as desired. They blame institutes and supervisors for their delays or failures. Researchers interested in higher education have shifted their attention towards this issue. Attempts to give reasons for poor performance/delays in the graduation of research students resulted in the blame game of accusations and counteraccusations from supervisors, research students especially, and the institution as to who is responsible for the delays.

The issues of poor performance at the postgraduate level are prevalent in the developed world as well as in the developing world. However, the developed world is taking measures to address these issues. Likewise, the issues of thesis blocking are also prevailing in all academic faculties and disciplines. Similarly, students of both genders face problems in postgraduate studies. The issues and factors related to postgraduate degree completion had been investigated by various researchers (Ali, Ullah and Sanauddin, 2019, Jinarek, 2010; Hadi & Muhammad 2018, Hadi & Muhammad,2019, Olorunnisola, 2011; Ssegawa & Rwelamila, 2009)

Researchers have identified seven key areas in doctoral education. The areas include completion and attrition rates, time to degree, socialization processes, dissertation logistics, supervisory roles and relationships, gender and race, and disciplinary differences (Gardner, 2010). Researchers have identified some factors affecting postgraduate student's performance. The factors can be grouped into student-related factors, institution related factors, and supervisor related factors (De Zoysa, 2007; Grant, 2005; Hadi & Muhammad, 2018 Meerah, 2010; Wareing, 2009). Some scholars classified these factors as personal factors, academic factors, and non-academic factors. In the view of some scholars, it is grouped as student deficiencies, inappropriate supervision process, and inappropriate research environment. Studies examined factors ranging from personal, academic, and financial influencing postgraduate students' research performance (Gardener, 2008; Wamala et al., 2012). Another study grouped the factors into internal factors (classroom-related/ academic factors) and external factors (family and financial factors) affect students' academic performance (Mushtaq & Khan.2012).

Students in Pakistan also face challenges and issues in higher education. Only a handful of studies have been carried out in the Pakistani context. Owing to this, a full-pledged study was needed to investigate factors affecting

students' performance. Therefore, the study at hand is conducted to investigate factors affecting postgraduate research performance in Pakistani universities. More specifically study tried to address the following questions:

(1) What Personal factors/ students' factors affect postgraduate students' research performance (2) How Institutional factors affect postgraduate students' research performance? (3) How supervisor related factors affect postgraduate students' research performance? And lastly what is the role of social support in postgraduate research performance?

Literature Review

The literature review portion is structured as per the variables of the study.

Demographic and student factors affecting postgraduate research performance

Researchers have ascertained the association of personal factors with the postgraduate performance of students. Students' factors and can be their gender, age, marital status, family background, nationality, academic discipline, and employment. While some scholars investigated how certain psychological/cognitive abilities, skills, and capabilities are an important correlate of their academic performance.

Various studies reported that men are (slightly) more likely to complete their doctorate than women, sometimes even when other factors are taken into account such as the scientific discipline (Groenvynck, Vandevelde, & Van Rossem, 2013; Visser, Luwel, & Moed, 2007). While some authors found no association between gender on Ph.D. accomplishment (Van der Haert et al., 2013; Spronken-Smith, Cameron, & Quigg, 2018).

Age is another factor that has been related to doctoral completion. The youngest Ph.D. students at the start of their research career (20-26 years) enjoy higher completion rates than the oldest (27-75 years (Van der Haert et al., 2018; Spronken-Smith, et al., 2017). However, others came up with the conclusion that age is not a significant factor in the completion of studies (Bair&Haworth 2004).

Marital status is one of the most important factors of doctoral success and dropout. married students or students who are in a relationship took longer to accomplish their doctoral studies (Lott; Gardener & Powers,2009;Lovitts,2001) Moreover, pregnancy, child birth and caring/rearing of infants could result in delayed thesis completion (Ho, Wong & Wong,2010).

Nationality of the students also affect doctoral success. Research studies in the United States of America and other European countries reported that native/ local candidates lag foreign students who enjoy higher completion rates (Groenvynck et al., 2013) likewise, various scholars have studied various psychological factors that affect postgraduate studies. Studies reported that certain qualities are required for postgraduate students i.e. openness, Student readiness for handling delays and stress, normalizing of experiences, planning for research, already set millstones and ability to achieve to these milestones during candidacy.

Some postgraduate students may have *problematic candidature* (Cantwell et al. 2012). Problematic candidature refers to shortcomings or weaknesses that are within the student, and which may impede progress, and diminish the quality of the final product. Lovitts (2001) called attrition as a private choice made by students. She argues that personal shortcomings of students i.e. the inability to measure up intellectually is the main reason of attrition. Attrition is the result of personal rather than departmental factors. The same is validated by other studies (Ali & Kohun, 2006; Gardner, 2009).

In the present study, we operationalized the personal factor to gender, age, marital status employment, disability, and perceived competence/ self-efficacy

Institutional factors affecting postgraduate research performance

Some institutional factors are identified as important correlates of postgraduate research performance. For example, Library /Digital resources, appropriate working space and computing facilities, financial support for research, and seminars/ training for research are some factors that affect postgraduate research performance.

A study in Australia reported that institutional support plays an important role in postgraduate studies. Institutional support includes timely IT support, networking in the doctoral cohort, desk space and computer access, financial assistance, training for adjustment with foreign environment/society, coping stress, and facilitating international students (Halbert ,2014; Lovitts &Nelson 2000).

Funding opportunities also play an important role in postgraduate studies. Studies have confirmed that scholars with finding opportunities perform well as compared to self-support students (Wollast et al., 2018). The funding opportunities for natural sciences are greater than social sciences, arts, and humanities. The more the financial assistance, the greater is satisfaction of students. Financial support also lowers the chances of attrition. Funding have great impact on motivation and persistence of students (Barnes & Randell, 2012; Gururaj, Heilig, & Somers, 2010).

Institutional factors were restricted to financial assistance for research, library / digital resources, working space/desk for students, internet connectivity, computing resources, technical support, seminars/training on research methodologies and involvement in a broader research culture.

Supervisory factors affecting postgraduate research performance

Conduction of research and thesis writing is an integral part of post graduate studies. Students are guided by supervisors in their journey. Supervisors must guide students and provide feedback/comments on their work (Seidu, 2015). Successful thesis completion is result of intelligence, training, perseverance, and guidance by supervisors (Lessing &Schulze 2003; Schlosser & Gelso,2001).

In certain case students spends more time then stipulated time of their degrees. They complain that we do not get proper time from supervisors. They add that supervisors are busy in teaching and other administrative duties. Some pointed out that one supervisor had too many supervisees. In certain cases, they stay away from the university frequently for external examination/conferences or other academic activities (Spear,2000).

Some supervisors are not supervisors are not conversant in new research methods. It also happens that some supervisors are unable to transfer or apply their research expertise on students. This badly their supervisees (Vilkinas, 2002; Wallace, 2003). Even though many studies addressed the question of how to deal effectively with postgraduate students, most of these studies have been conducted from a supervisor's perspective (Ismail et al., 2011), and only a handful of studies have acknowledged the students' opinion on doctoral supervision effectiveness (McAlpine and Norton, 2006).

According to Phillips and Pugh (2005) doctoral candidates expect certain qualities in their supervisors. For example, Reading students and quick feedback, availability, friendliness, openness and supportive to students. Moreover, they think supervisors should be knowledgeable and willing to share his knowledge. Lastly, they also expect that supervisors should help students secure a good job at the end of the candidature.

Gurr (2001) classified supervisors into two types one is “direct active” and “indirect passive”. Direct active are those supervisors who take initiative, direct their students, and push them to work. Indirect passive or those who wait for students to bring ideas for research. They are slow to respond or provide feedback. The type of supervisor affect progress of students.

Reserchers have emphasized that adequate support, access, and guidance from the supervisor is essential to avoid student drop-out, particularly in the early stages of candidature. (Manathunga 2005; McCulloch ,2010) one of the most important factors in student decisions whether to withdraw from or continue a candidature is the relationship with the supervisor (Lovitts &Nelson, 2000). It can be concluded that supervisors play very important role and can built and create career of a student.

Thus, in the present study, we operationalized the concept of supervisor factor to academic competence, experience, time management/ Frequency of meetings, Interaction/ friendliness, and student agency.

Operationalization of variables

Personal factors include student’s gender**,** age, marital status, employment, disability personality and perceived, competence/ self-efficacy

Supervisory Factors include supervisors’ competence, experience, time management/ frequency of meetings, interaction/ friendliness, and respecting students agency
Institutional factors include library /digital resources/ computing facilities**,** financial support for research**,** seminars/ training for research**,** and **working** space/cabins
Social support includes social support from family, friends, and significant others
Postgraduate performance includes understanding of research contents**,** doing scholarly literature review**,** ability of data collection methods**,** development of research proposal knowhow of data analysis**,** thesis write up/ academic write up, and research publications.

Methods

Research Design

A quantitative and cross-sectional research design was used. Owing to the nature and objectives of the study, quantitative, cross-sectional was the best-suited research design. The survey method was employed. Data was collected through questionnaire in online and offline mode. Statistical tests were applied to ascertain association among variables under study.

Participants

Participants of the study were M.S and Ph.D. enrolled students. Only those students were contacted who had completed their course work and currently developing their research proposal or writing their theses. Research students were in a better position to provided information about variables under study. They had better knowledge/experience about persona factors, institutional support, supervisory factors, and social support, and affecting their postgraduate performance.

Tools and construction of tools

A questionnaire was used for data collection. The questionnaire was developed after a careful review of the literature. Certain questions/ instruments were adopted from previous studies (e,g Abdullah & Evans, 2011;

Arabaci & Ersozlu, 2010; Hadi & Muhammad, 2017, Hadi and Muhammad, 2019, Minhard et,al. 2009) Close-ended questions/items were included. The questionnaire was composed of various sections

Socio-Demographic information

This section inquired basic information of respondents and reasons for pursuing postgraduate studies.

Personal factors

This section was composed of student/personal factors affecting postgraduate performance.it mainly covered personality and perceived Competence/ self-efficacy. It had 9 items. Five-point rating scale was used. The response options ranged from strongly agree to strongly disagree.

Supervisor factors

This section contained questions regarding the supervisor. This section was subdivided into a supervisor's academic competence, experience, communication/interaction, and friendliness with students and student agency in the supervisory relationship. It had 19 items. Five-point rating scale was used. The response options ranged from strongly agree to strongly disagree.

Institutional factors

This section was about institutional support to postgraduate students It was restricted to the library /Digital resources/ computing facilities, financial support for research, and seminars/ training for research. It had 09 items. Five-point rating scale was used. The response options ranged from strongly agree to strongly disagree.

Multidimensional Scale of Perceived Social Support

This section inquired about social support to postgraduate students. It was measured through the *Multidimensional Scale of Perceived Social Support* (Zimet, Dahlem, Zimet & Farley, 1988). It had 12 items. Five-point rating scale was used. The response options ranged from strongly agree to strongly disagree.

Postgraduate performance

Postgraduate performance is the dependent variable. It was restricted to the understanding of research contents, doing a scholarly literature review, the ability of data collection methods, development of research proposal, knowhow of data analysis, thesis write up/ academic write up, research publications. It was measured through 9 items. The response options were poor (1) fair (2) average (3) good (4) and excellent (5)

Data collection process

Data were collected online and offline. Questionnaires were administered personally by the researchers. The mail survey method was also adopted to collect data. The questionnaire was formulated on google and the link was circulated through email addresses and various social media sites. 192 post graduate students were contacted for data collection.

Analysis techniques

Pearson Correlation was applied to measure the correlation between variables.

Data analysis and discussion

Table No. 1 Sample characteristics

Gender	**Frequency**	**Percentage**
Male	148	77.1
Female	44	22.9
Total	192	100
Age	**Frequency**	**Percentage**
24-28	98	51.04
29-32	40	20.83
33-36	33	17.18
37-40	15	7.83
41-44	6	3.12
Total	192	100
Marital status	**Frequency**	**Percentage**
Unmarried	102	53.12
Married	90	46.88
Total	192	100
Faculty	**Frequency**	**Percentage**
Social sciences	65	33.85
Humanities	39	20.31
Life sciences	50	26.04
Physical/Chemical sciences	27	14.06
Engineering	11	5.72
Total	192	100
Program	**Frequency**	**Percentage**
M.S/M.Phil	126	65.6
Ph.D	66	34.4
Total	192	100
Employment status	**Frequency**	**Percentage**
on job	91	47.4
Jobless	101	52.6
Total	192	100

Table no. 2 Reasons for doing MS/PhD

Question	**Frequency**	**Percentage**
To Upgrade qualification	117	84.17
Better Employment prospect	38	27.33
Lack of employment	22	7.5
Requirements for promotion	30	21.58
Pursuit of knowledge	43	30.19

Table no. 3 Pearson Correlation

	PF	SF	IF	SS	PGRSP
PF	1	.508**	.399**	.405**	.155*
SF	.508**	1	.589**	.533**	.068
IF	.399**	.589**	1	.561**	.044
SS	.405**	.533**	.564**	1	-.033
PGRSP	.155**	.068	.044	-.033	1

**Correlation is significant at 0.01(2 tailed)
*Correlation is significant at 0.05(2 tailed)

Explanation

The above findings show that personal factors are weakly correlated with post graduate research performance. Other factors did not correlate with post graduate performance. It means that it only depends on the individuals rather supervisor, institute, and peer group support.

Discussion

The data shows that personal factors are weakly correlated with post graduate research performance. Studies has reported various psychological factors that affect postgraduate studies. Studies reported that certain qualities are required for postgraduate students i.e. Student readiness for handling delays and stress, life Initiative, normalizing of experiences motivation Pre-determined research milestones, clearly defined milestones during candidacy, and assistance with understanding what is required to meet those milestones having achievable short-term goals in postgraduate studies.

Some postgraduate students may have *problematic candidature* (Cantwell et al. 2012). Problematic candidature refers to shortcomings or weaknesses that are within the student, and which may impede progress, and diminish the quality of the final product. Lovitts (2001) argues that dropout/ attrition is often considered a private choice made by students due to personal shortcomings such as the inability to measure up intellectually. Attrition is the result of personal rather than departmental factors. Her findings revealed that 70 % students cited personal reasons for their attrition. The same is validated by other studies (Ali & Kohun, 2006; Gardner, 2009).

Studies also reported that lack of motivation in supervisee/ students is one of the main reasons of thesis delay. The study further added that less competent students were most likely to get dropout. The findings of our study are in line with previous studies like (Ali & Kohun, 2006; Gardner, 2009; Shaikh 2015; Sarwar, Shah & Akram 2018) Contrary to previous studies, current study ascertained no correlation between supervisory factors and performance. Respondents have supervisory support and does not affect their research performance. findings are not in line with previous studies like Cotterall, 2013; Gardner, 2009; Gearity & Mertz, 2012, which reported strong link of supervisory factors with research performance of students.

Unlikely to previous studies, our findings reveal no correlation between social support and post graduate research performance. It is deduced that social support has no impact on research performance of students in current study. Studies like (Jairam & Kahl., 2012; Lahenius & Martinsuo, 2011, Mintai,2019; Peltonen et al.,2017) reported strong association of social support with research performance of students.

Conclusion and recommendations

The study was designed to investigate factors affecting research performance of postgraduate students. The main variables were students' factors, supervisory factors, institutional factors, and social support affecting research performance. The study was carried out with quantitative methodology. the study aimed to find correlation among the variables under study. The main conclusion drawn from our finding is that there is weak correlation between students 'factors and postgraduate research performance. It is student's limitation/ incompetence that negatively affect their research performance. In addition, we can conclude that there is no correlation between supervisory factors, institutional and research performance. likely we found no correlation between social support and research performance.

Based on findings of our we have two recommendations. We recommend that students should properly assess themselves before embarking M.Phil. and PhD studies. If they are not fully trained/ prepared and committed to study to post graduate studies, they should not enroll in such programs. Universities should also reconsider their entrance/ aptitude tests and interview process. They should properly assess them before enrolling students. It should be made sure that eligible, motivated, and committed students are selected. This process will minimize chances of potential dropout of students. This will save time and resources of both university and students.

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