

WOMEN'S ROLE IN RESEARCH IN PUBLIC SECTOR UNIVERSITIES OF PAKISTAN: A CASE STUDY OF UNIVERSITY OF SINDH, JAMSHORO

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ABSTRACT

The active participation by highly educated women in any income generating activity plays a highly important role in ensuring sustainability of economic growth rate. However, even in 21st century, educated women in Pakistan are still a long way away from equal participation with men in many fields. Universities can play an integral role in creating opportunities for education and equitable employment. However, at university level, women's role in research is negligible across the world as well as in Pakistan (European Commission, 2009). This may affect their career advancement in higher education sectors. Therefore, this research study focuses on analyzing women's contribution in research in higher education sectors in Pakistan and to find out the major impediments of the underutilization of educated female human resource. The study has found that personality traits have significant positive impact on women's involvement in research. However, due to the burden of domestic responsibilities, women faculty has not been able to find time to engage in research activities. Consequently, they stay fixated at junior level teaching and lower management positions at university level.

Keywords: *Women, University, Research, Career Advancement, Higher Education Sector, Human Resource, Underutilization, Domestic Responsibilities, Personality.*

INTRODUCTION

Economic growth has to be pegged to human resource utilization and gender equality (Social Policy and Development Centre, 2009). Women can play an energetic part in public and private segments of the economy and give significant input to economic development of the country. However, due to multiple domestic responsibilities and their personal characteristics, contribution of highly educated women is poor in various

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sectors of the economy.

Higher Education Institutions (HEIs) play a crucial role in generating opportunities for equitable employment and removing the disparities in power and status (Isani & Virk, 2003). However, at university level, women's contribution in research is deplorable and the potential of educated women stays under-utilized in higher education sectors. Therefore, this study is focused on analyzing women's contribution in research at university level with special reference of Pakistan. The research also explores some of the major direct and indirect factors held responsible for limited contribution of women to research. The research paper is divided in three major parts: part one gives introduction and conceptualized literature review; part two focuses on research methodology and part three presents summary of conclusions and recommendations based on the results of the study.

CONCEPTUALIZATION

University is a large institution created to educate and train the pupils at higher levels, including research level (Assié-Lumumba, 2006). University occupies a most significant position as an institution for higher education where highly qualified faculty offers teaching and research work (Zaki W. N, 1998). Motivation of women faculty towards research is the core pillar for the rapid expansion of their employment status at university level and plays a significant role in enhancement of their intellectual potential because faculty recruitment and promotion process largely depends on their research output (European Commission, 2009). However, Hill et al., (2010) reported that during past decades, women participation in intellectual research environment has highly increased but, almost, all over the world, women faculty is still not equal to men faculty in the field of research. On the other hand, female faculty is also found uneven by disciplines (i.e. 27 percent full professors in humanities, 18.6 percent in social sciences and 7.2 percent in engineering and technology). Therefore, women's participation in the field of research is more striking in the field of science and technology (European Commission, 2009). Tower et al., (2007) examined the top six journals in the world and found that women represented only 30 percent of the authors in the top tiered journals.

Universities in Pakistan (like general trend in the world) expected significant contribution from both men and women in the field of research (Khan and Jabeen, 2011). Educational degree advancement in the field of

research and publication in research journals is the important indicator of measuring the research performance of faculty members (Zia et al., 2010). According to Higher Education Commission of Pakistan's eligibility criteria, PhD/specialization in related fields and particular numbers of research publications are also required for promotion of faculty to senior academic positions such as associate professor and full professor (HEC Official Website, 2014). Faculty appointments at higher academic ranks also provide opportunity to them to participate at key management positions (this includes Deans, Pro-Vice Chancellor etc). To promote the research culture in universities in Pakistan, Higher Education Commission (HEC) of Pakistan has taken many steps. For example, HEC Pakistan offers thousands of scholarships for PhD programmes at national and international levels, introduces Tenure Track System and provides research allowances as to motivate faculty members towards research (Khan and Jabeen, 2011). Hence, women's participation in research activities still remains backward in higher education sector in Pakistan.

In many countries like Pakistan, domestic tasks (i.e. preparing of food for the family, keeping the home clean and taking special care of children etc) are considered women's responsibility, be they either working women or house wives. Therefore, professional women have to balance the demands arising from family and work roles (Federal Ministry for Family Affairs, 2010). Farida (2010) found that working women, particularly those who are married and having young children may be facing work-burnout and job disruptions. According to United Nations Educational, Scientific and Cultural Organization (2012) and Bell (2009) domestic responsibilities interrupt women's research activities. Therefore, women are less likely to have completed a PhD or taken more time to finish their doctoral qualifications. According to Bell (2009) due to domestic responsibilities in early professional career at university level, female faculty members had a significantly low numbers of total publication index than male faculty members. Singh (2002) reported that as a result of household tasks, female faculty often could not find time for enhancing their qualification and increasing their research publications and consequently, are stuck at junior academic positions such as lecturer. United Nations Educational, Scientific and Cultural Organization (UNESCO) Institute for Statistics, (2010) reported that because of cultural norms and household responsibilities, women are less geographically mobile. For instance, in India, women account for 27 percent of the mobile student whereas in Pakistan they account only 16 percent of mobile students. Consequently women academic

staff remains backward in relation to received foreign degree for their research contribution (i.e. M.Phil, PhD etc.).

Human personality dimensions or personality traits have great influence on people's goals, achievements and professional success and the influences can be both positive and negative (Bovee et al., 1993). Extraversion is the fundamental trait of human personality. It is the act or state of being predominantly concerned with and obtaining gratification from what is outside the self (Caligiuri, 2000). Extraversion personality trait has two different dimensions that are extraverts and introverts (Digman, 1990 and Matthews et al., 2003). Extraverted people are characterized by positive emotions and avail the opportunities for excitement (Digman, 1990). In contrast, introversion refers to the tendency of being predominantly concerned with and interested in one's own mental life (Eysenck 1991). According to Shah (1999), women by nature have reserved personalities. Therefore, they like to involve in solitary activities like reading and writing. Openness is another important dimension of human personality (Goldberg, 1990). Openness refers to the ability to think and accept the new environment (Bovee et al., 1993). Individuals, who score high on openness possess a broad range of interests and try to do new things (Huang et al., 2005). Those who score low on account of open to experience are known as closed to experience or close-minded people: they possess closed styles of thinking (Goldberg, 1990). Shah (1999) found that women possess ability to generate new ideas and recognize new trends. Therefore, they like to adopt teaching and learning. Therefore, in this study, women's personality is also analyzed so as to identify the impact of women's personality dimensions on their contribution to research.

A summary of the review of the literature shows that due to various direct and indirect factors, women's contribution in higher education research remains poor, not only in Pakistan but across the world. This opens the area to investigate women's role in research in Pakistan with special focus on university of Sindh, Jamshoro.

METHODOLOGY

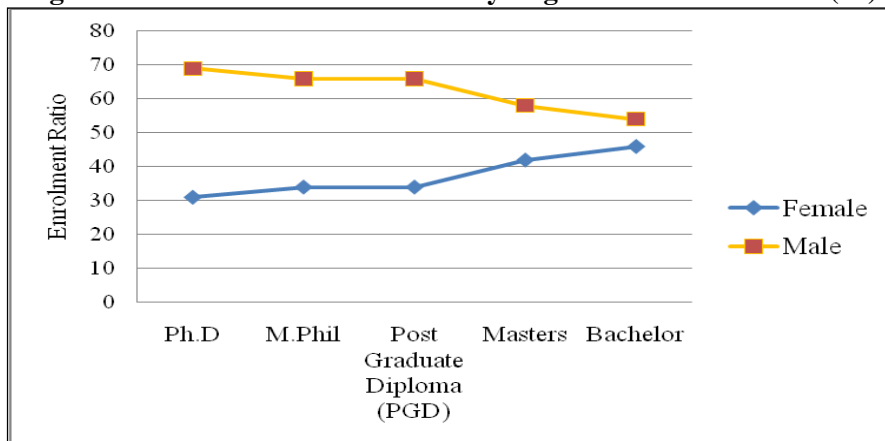
This survey research is based on both qualitative and quantitative data. The leading public sector university, which is University of Sindh, Jamshoro is purposely selected, as representative sample of the population. 98 sample respondents which were randomly selected within their related category for the data collection. Sample size is calculated through Raosoft sample size

calculator, at $\pm 5\%$ error rate. Data was collected on parameters such as education, post graduate research supervisors, post graduate foreign degree, research publications, paper presented in seminars at national and international level domestic responsibilities, marital status. To analyze the impact of personality traits on women's contribution to research, tendency of openness, closed-mindedness, extraversion and introversion were selected. Primary data was collected through interviews in formal questionnaire and secondary data was collected through Higher Education Commission (HEC) of Pakistan's Official Website. Regression technique was applied to identify the factors that determine women's role in research. MS Excel and Statistical Package for Social Sciences (SPSS) were used to analyze the data and to present the results.

STUDY RESULTS

Higher qualification (such as PhD degree) is a criterion required for promotion of faculty members to senior level teaching and key management positions.

Figure-1: Male-Female Enrollment by Degree Level in Pakistan (%)

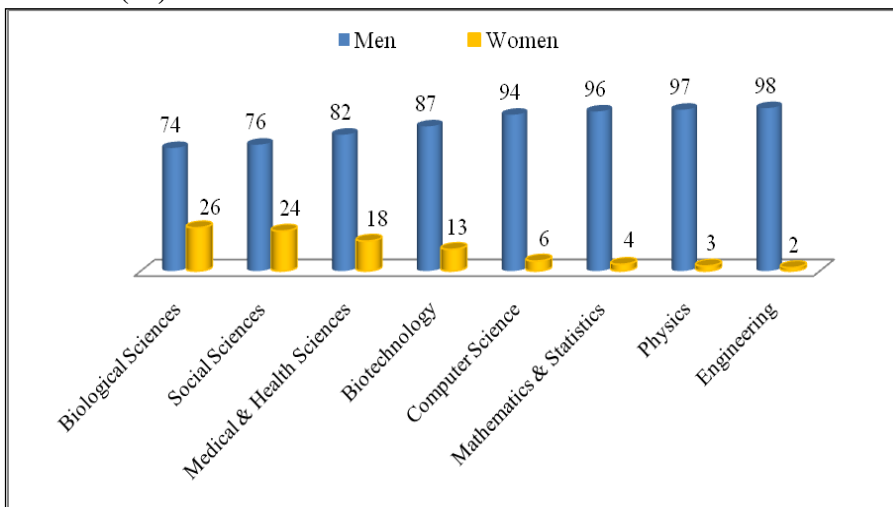


Source: Higher Education Commission (HEC) of Pakistan Official Website, Statistical Information Unit, 2014

Figure 1 highlights that female enrolment proportion is on the decline at each higher degree level programs and wide gender gap persists that favors males at PhD degree level. This indicates that a certain proportion of females drop out of Higher Education Institutions (HEIs) after graduation. This is a major hurdle which prevents women from attaining senior

academic positions and significantly contributing to the field of research (such as research supervisor etc) in Higher Education Institutions (HEIs) in Pakistan. According to Syeda et al. (2006) and Qasmi (2009), patterns of gender roles in Pakistani society and cultural constraints (such as early marriages etc.) are the major issues responsible for female dropout rate at higher education level.

Figure-2: Men-Women Research Supervisors by Discipline in HEIs of Pakistan (%)



Source: Higher Education Commission of Pakistan (HEC) Official website, 2014

Figure 2 shows gender representation as Higher Education Commission (HEC) approved research supervisors in Higher Education Institutions (HEIs) in Pakistan. The proportion of women as research supervisors in biological sciences (i.e. 26), in social sciences (i.e. 24 percent) and in medical & health sciences (i.e. 18 percent) indicates that women are not equally contributing in research activities even in their own traditional fields. Furthermore, in male dominated fields i.e. engineering, physics, mathematics-statistics and in computer, women's contribution as research supervisors is very poor. Women's proportion is low as faculty members and still lower in proportion as PhDs and female faculty is also unevenly distributed by disciplines (as discussed above). Therefore, proportion of women as research supervisors is low and lowest in especially male dominated fields.

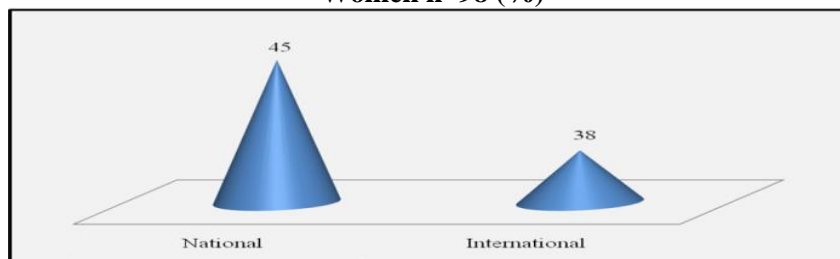
Table-1: Sample of Women Having Post Graduation in a Foreign Degree & working as Post Graduate Research Supervisors n = 98 (%)

Response	Having Post Graduate Foreign Degree	Post Graduate Research Supervisors
Yes	7	41
No	93	59
Total	100	100

Source: Survey Data, 2014

In the context of social and cultural norms, women remain less geographically mobile. Therefore, regarding research activities, their representation remains poor, particularly at international level. Table 1 shows very low ratio of sample women who earned post graduate foreign degree in the field of research (i.e. only 7 percent). In order to enhance intellectual potential among faculty members, Higher Education Commission (HEC) of Pakistan offers scholarships for postgraduate programmes at international levels. However, data indicates that sample women are not availing themselves of these opportunities. Table 1 also highlights that in University of Sindh, Jamshoro (UOS)[§] sample women representation as postgraduate research supervisors is encouraging (i.e. 41 percent). This indicates that sample women in University of Sindh, Jamshoro (UOS) actively engage in research promotion activities.

Figure-3: National and International Research Publications by Sample Women n=98 (%)

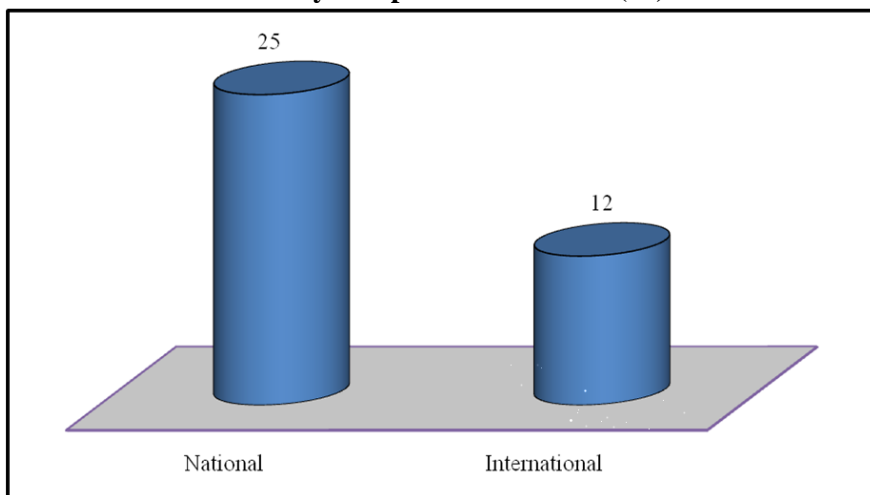


Source: Survey Data, 20114

[§] The University of Sindh, Jamshoro located in district Jamshoro, province of Sindh, Pakistan. It is about 18 kilometer away from Hyderabad on the right bank of river Indus (University of Sindh From Wikipedia, the free encyclopaedia, 20014).

Figure 3 presents the comparative trends related to sample women's research publications in research journals at national and international level. Data indicates that sample women's contributions in research publications at national level cannot be denied. In contrast, 55 percent and 62 percent sample women faculty has never published any research paper at national and international level throughout their professional career. This can be identified as the main reason of women's limited contribution in research and underutilization^{**} of educated human resource^{††} in University of Sindh, Jamshoro (UOS).

Figure-4: Papers Presented in Seminars at National and International Level by Sample Women n= 98 (%)



Source: Survey Data, 2014

In Higher Education Institutions (HEIs), presenting research papers at national and international level is a significant resource to develop and share knowledge and research skills (see chapter two). Figure 4 displays trends for presenting research papers by sample women at national and international level in sample universities. The data reveals that 75 percent and 88 percent sample women did not present any research paper throughout their professional career at national and international level. This

^{**} A condition wherein the resources available are not being used to their fullest potential

^{††} Human resources is the set of individuals who make up the workforce of an organization, business sector, or economy

indicates that sample women lack motivation to share knowledge and develop research skills^{**} at international level.

Table 2: Sample Women on Openness & Extraversion Personality Trait n = 98 (%)

Personality Trait	Statements	1	2	3	4	5	Total
Openness	I see myself as someone who has few artistic interests	36.4	40.9	9.1	13.6	—	100
	I see myself as someone who has an active imagination	50	31.8	18.2	—	—	100
Extraversion	I see myself as someone who is reserved	18.2	36.4	9.1	27.2	9.1	100
	I see myself as someone who is outgoing, sociable	31.8	31.8	4.5	27.4	4.5	100

Source: Survey Data, 2014

1) Strongly Agree 2) Agree 3) Undecided 4) Disagree 5) Strongly Disagree

Table 2 analyzes sample women on openness personality trait. Data highlights that 80 percent sample women (i.e. average of 77 and 82 percent agree and strongly agree combined) reported being open individuals. These women were found to experience new things. Some sample women reported as closed personalities and there were some who were not able to analyze themselves on openness personality trait. Furthermore, table also analyzes sample women on extroversion personality traits. Table 2 also highlights that 54.6 percent (i.e. strongly agree and agree combined) sample women were reserved persons; they tended to seem quiet, low-key and deliberate. In addition, 31.5 percent (i.e. disagree and strongly disagree combined) sample women were less involved in the social activities. These working women were not shy or depressed. In fact, they were very active and energetic but simply were not social. They needed less stimulation and more time alone and this being indicative of introverted personality type. Furthermore, data reveals that 36.3 percent (i.e. disagree and strongly

^{**} Skills refer to learned abilities to achieve a task without wastage of time, energy and other resources.

disagree combined) sample women reported that they were not reserved persons. In groups, these women liked to talk and draw attention to them. There were some (i.e. undecided) who were not able to analyze their personality on account of extraversion personality trait.

Table-3: Empirical Analysis of Personality Impact on Numbers of Research Publications by Sample Women n = 98

Personality Traits	Un-Standardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	-.362	1.699		-.213	0.832
Openness (X ₁)	4.292	1.738	.253	2.469	0.015*
Introversion (X ₂)	3.696	1.612	.235	2.292	0.024*

Data Source: Survey Data, 2014

*Significant at 0.05 Level

Dependent variable (Y) = numbers of research publications in journals

Table 3 presents the impact of introversion and openness personality trait (i.e. independent variables) on numbers of research publications in journals (i.e. dependent variable) by sample women. Significant value of t-statistic^{§§} shows that introversion and open personality traits have significant impact on research publications by sample women. This indicates that sample women who are less involved in social world and like to experience new thing are more likely to publish research papers. Positive values of b coefficient^{***} for openness (i.e. 4.292) and for introversion (i.e. 3.696) personality trait indicate that both variables have direct relationship with numbers of research publications by sample women.

Table-4: Respondents Marital Status n = 98 (%)

Material Status	Sample Women
Unmarried	31.8
Married	68.2
Divorcee/Widow	-
All	100

Source: Survey Data, 2014

^{§§} Significant level or p-value of t-statistics indicates that the independent variable has significant impact on predicting dependent variable

^{***} b coefficients also known as slope which indicate the average change in dependent variable associated with one unit change in independent variable

Table 4 presents marital status of sample women. Data highlights that approximately 68 percent sample women were married. These sample women had to perform multiple roles (including domestic work, children-rearing and child birth) besides their professional responsibilities.

Table-5: House Maintaining Activities n=98 (%)

Person Who Looks After	House Maintaining Activities		
	1	2	3
Maid	96	36	37
Self	—	46	45
Family Members	4	18	18
All	100	100	100

Source: Survey Data, 2014

1) House Cleaning 2) Cooking 3) Other Domestic Activities

In table 5, data reveals that for house cleaning, cooking and other domestic activities, 96 percent, 36 percent and 37 percent of sample women respectively depended on maids. Some sample women have family support for maintenance of food for family. However, 46 percent and 45 percent sample women manage cooking and other domestic activities (this includes dishwashing, dry-cleaning etc) by themselves. This indicates that after performing duty hours, sample women have to devote their time and efforts for domestic activities. Loughlin and Barling (2001) said that women spend more hours on performing housework and childcare than their husbands. Therefore, they are less motivated to participate in research activities along with teaching.

Table-6: Respondents' Children Look After by Source n = 65 (%)

Numbers of Children	Age Group	Percent for Age Group	Source in Percent			
			Nanny	Family Members	Children Themselves	All
65	<5	12	85	15	—	100
	5--10	20	30	70	—	100
	> 10	68	5	15	80	100

Source: Survey Data, 2014

Table 6 evaluates the sample women in the context of their childcare responsibility. Data indicates that 68 percent of children of sample women were more than ten years old and able to look after themselves. 32 percent

of children of sample women were under 10 years old and sample respondents depended on nanny/family members for their look after when their mothers were at job. However, as mothers these sample women have to devote more time and energy for the look after of their young children.

CONCLUSIONS & RECOMMENDATIONS

Women's full contribution as educated human resource in various sectors of economy is necessary for their professional success and for economic development of a country. Higher education sector is responsible for providing equal opportunities of work and to remove gender disparities. Faculty promotions at senior academic ranks and their representation at key decision making positions is also correlated with their active participation in research. However, the study found that at university level, women's role in research is rather poor. Due to domestic roles and attitudes of society, large proportion of sample women could not find time and energy to actively take part in research and being less geographically mobile, poorly availed themselves of the opportunities to develop their professional and research skills at international level. Moreover, regression outcomes confirmed that personality traits have significant impact on sample women's role in research.

To tap the full potential of women as educated human resource and to enhance their full contribution in research, it is recommendable to increase the numbers of PhDs/specialized women in their respective fields by allocating scholarships exclusively for women. This will help them to be able to reach senior academic and decision making positions. It is also suggested to organize special lectures/seminars for the development of research-writing skills among faculty members. It is recommended that various conferences and seminars should be organized to create awareness among women, to strike balance between professional and domestic roles, to encourage proper utilization of their time at job, and to enhance their effectiveness in universities of Pakistan. Personality development sessions should be held for enhancing women's potentials and their self-motivation towards research in Higher Education Sector of Pakistan.

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