



Influence of Institutional Prerequisites on Earnings of Working Women in Khyber Pakhtunkhwa, Pakistan

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Abstract

Human welfare largely depends upon the earnings of individuals. Earnings reduce poverty, increase wealth, and accelerate economic development. Therefore, it is appropriate to thoroughly investigate the factors responsible for earnings. Various factors of earnings have been described and discussed in previous research work. The current study aims to examine the impact of institutional factors like job sector, harassment, status of the job, and job satisfaction on earnings of the working women in addition to the human capital variables using primary data directly collected from the respondents. Data were collected from 789 respondents in 2019 and in ten randomly selected districts of the Khyber Pakhtunkhwa (KP) province of Pakistan. The regression model was estimated by the Ordinary Least Squares (OLS) technique after fulfilling the assumptions of normality of residuals, heteroscedasticity, multicollinearity, and model specification tests. Regression results are in line with the previous research work showed that education and experience have a significant positive impact on the earnings of the working woman. Earnings of public sector employees exceeded private sector employees' earnings. The status of the job revealed an insignificant impact on earnings. Job satisfaction and harassment also indicated an insignificant impact on earnings. It is concluded that institutional factors except the sector of the job have no influential impact on the earnings of working women in KP.

Keywords: Institutional Factors, Khyber- Pakhtunkhwa, KP Districts, Primary Data, Women Earnings.

JEL Classification: J01, J08.

1. Introduction

In social sciences, understanding the earnings of individual workers is immensely important because it is closely related to the foundations of human welfare. Knowledge of the determinants of earnings helps policymakers to devise policies

which are helpful in increasing wealth, reducing poverty and finally to put economy on the path of increased growth and development (Polachek, 2007). Human resources are important for the development of an organization or an institution along with the physical resources. Therefore, entrepreneurs try their best to retain their competent employees. The smooth and efficient performance is largely dependent on the satisfaction of the employees. Workers' satisfaction is a result of the job satisfaction of the workers which is the measurement of an employee's feelings towards his or her job (Spector, 1997).

Factors influencing job satisfaction may be intrinsic factors like recognition, values, and advancement; and extrinsic factors like pay, working conditions, supervision, etc. Similarly, personal factors could also contribute to job satisfaction (Buitendach and De-Witt, 2005). Theories suggest a positive or a negative relationship between pay level and job satisfaction. Studies have found a variety of results showing positive, moderate, and weak relationships between pay level and job satisfaction. For example, Beutell and Wittig-Berman (1999) found a significant positive while Adams and Beehr (1998) revealed a weak relationship, and Malka and Chatman (2003) suggested a moderate relationship between job satisfaction and earnings. Overall, there is a mixed situation of concepts focused on the relationship between pay level and job satisfaction (Judge et al., 2010).

The interaction of male and female staff members in the official work leads to the problem of sexual harassment and this issue has gotten much attention from researchers because of its negative impact on earnings and employment (Saeed, 2012). Over the past few decades, studies on sexual harassment have documented its importance. These studies suggest that sexual harassment practices have a great negative impact on job satisfaction, productivity, job involvement, and psychological and physical health conditions of employees (Chan et al., 2008). Sexual harassment has been a great cause of absenteeism, and turnover and is responsible for mental stress, depression, and anxiety. Due to its significance, it is necessary to seriously examine the problem of sexual harassment (Hashmi et al., 2013).

On the other hand, women employees work in the public and private sectors of the economy. It has a substantial effect on the job sector earnings of the employees. More productive and efficient workers are highly rewarded in the private sector compared to the public sector whereas more experienced workers are highly paid in public sector. Studies conducted on this issue have found a significant impact of the sector of job on earnings of the employees (Lall and Sakellariou, 2010; Bhatti, 2012). In public and private sectors, workers are hired on permanent, contract, temporary, adhoc, and visiting basis. They are paid according to their ability, experience and

qualifications. Studies (Gardeazabal and Ugidos, 2005; Bhatti, 2012) have found that there is a significant effect of the contract type on earnings in the labor market.

Individual earnings are considered important for the development of a society and poverty reduction at the national and household level. Females play a significant role in the economy. They increase the productivity of the economy and their earnings contribute to the family income and help in reducing poverty. Therefore, the analysis of working women's earnings (WWEs) is necessary and helpful in framing policy for human resource development and the growth of the economy (Faridi et al., 2009). Research work in Pakistan has explored the impact of various social, economic, and cultural factors on the female labor force participation rate but little attention has been given to the impact of institutional factors on working women's earnings.

In a patriarchal and traditional society, women are not given the right place and value they deserve. Pakistani society is an example of a traditional and patriarchal society, where women are restricted to the home, given less education compared to men, and bestowed housewife status and low-paid jobs. They are the victim of gender discrimination. Therefore, the government of Pakistan is making continuous efforts to increase the literacy rate and education of women in the country (Nosheen, 2011). The positive role of social, print, and electronic media has brought about a lot of change in the behavior of society towards women. Now women are well aware of their rights, and opportunities of receiving education and employment. Consequently, the number of working women in the labor market is gradually increasing. In Pakistan, women work outside their homes because of the high cost of living despite the fact they face problems like cultural control in society, inadequate legal protection from sexual harassment, gender segregation, and non-recognition of their work (Noureen and Awan, 2011).

As mentioned above, many studies have addressed diverse problems that women face while performing their jobs all over the world. A similar situation is also prevailing in Pakistan where women have to face social, economic, cultural, religious, institutional, and domestic problems while doing their job (Avais et al., 2014).

Setting aside the difficulties, Pakistan's economy needs to attain sustainable economic growth and development by increasing women's labor force participation rate because women constitute nearly half of the population of the country (Qureshi et al., 2007). Subsequently, this study contributes to the institutional factors literature by examining whether these factors have an impact on the productivity of employees in KP; in particular, how they affect their earnings. Therefore, the objective of the current study is to analyze the impact of institutional factors on the earnings of working women.

2. Significance of the Study

Since women population is half of Pakistan's total population, therefore, its vital role in the development and growth of the country cannot be overlooked. They do jobs and earn incomes for the prosperity of the household members. They contribute to national income and play a vital role in poverty elimination and these can be regarded as important contributions to the economy. In Pakistan, most studies are done on the problem of women's participation rate in income-generating activities, and the problems which they face during their performance of jobs in the public, and private sector institutions and organizations are often ignored. Therefore, this is a leading study on the institutional problems of working women in KP.

In traditional societies like Pakistan and especially KP, women are the victims of a variety of complications while performing their jobs. Gender discrimination in promotions, lack of opportunities for women compared to their male colleagues, sexual harassment, unsuitable conditions for working women, non-recognition of their services, low wages, job satisfaction, and low literacy rate of women in Pakistan and especially in KP, are some of the hurdles which can be considered important factors in explaining the impact of institutional factors on earnings of working women. Literature suggests that the sector of the job and the nature of the contract of employment are also important factors in explaining earnings and are also a part of the current study to be investigated for the analysis of earnings. So it is expected that the current study will contribute to the literature some useful knowledge regarding earnings of the women. Different studies have been done in Pakistan on female participation in income-generating activities (for example, Nazar and Chaudhry, 2019). Some studies conducted on working women's earnings are related to the analysis of human capital variables and earnings (Abbas and Foreman-Peck, 2007; Bhatti, 2012). These studies analyzed secondary data. Studies done on primary data like Faridi et al. (2009) dealt with only the labor force participation decision. The current study collected primary data on different variables, collected from ten randomly selected districts in KP. This data is wide in scope concerning respondents as compared to other studies of this type. Since no study has been conducted in KP on the earnings of working women and its impacting institutional factors, this study will be a pioneering study to analyze WWE and its impacting institutional factors in KP.

3. Literature Review

A brief and relevant review of the literature for gaining knowledge of the previously done studies on the earnings of working women in different parts of the world and Pakistan is given below.

Mullins (2006) examined the relationship of different individual factors like marital status, sex, educational level, and age, social factors like job security, relationship with colleagues, and organizational factors like achievement, recognition, promotion opportunities, salary, working conditions, and job satisfaction in different organizations. He found that individual factors, social factors, and intrinsic and extrinsic factors that affect organizations have a significant impact on job satisfaction.

Estevez-Abe and Hethy (2008) investigated individual and institutional factors that affect working women's earnings and their economic contribution to household income in 16 advanced industrial countries. The micro-level data from the Luxembourg Income Study is analyzed in the study. Statistical analysis includes a multi-level regression and a two-step regression analysis. Results showed that strong employment protection negatively affects women's contribution to household income by reducing women's employment levels, while the size of the public sector positively affects wives' contribution to household income by improving women's wages. The positive effect of the public sector is independent of mother-friendly social policies. It is suggested that the public sector should compensate for the negative effects of strong employment protection on wives' earnings and economic contribution to household income.

Stier and Mandel (2009) examined the impact of arrangements and institutional policies like maternity leave, leave for younger children care, child care centers for working mothers, women's part-time jobs facilities, and income inequalities that support working women's economic contribution to their families. A sample of working-age couples in 21 countries was selected for analysis. Multilevel modeling was employed. It was concluded that long maternity leave, part-time employment, and leave for younger children, significantly decrease women's economic contribution to their family while lower family income, availability, and low rate of daycare centers for infants and low percentage of part-time employment in the country increase their contribution to the family

Kim (2011) conducted a study to identify institutional factors affecting faculty salary, gender discrimination in faculty salary, career development, and workloads at a public institution in New York. Descriptive analysis of the data checked gender differences in salary. In regression analysis, three types of variables namely gender, discipline, and length of time are used. This study used institution-specific criteria that was a representative data of the unique situation of the institution and of faculty members in the analysis. Results showed that there is no significant evidence of discrimination in gender faculty salaries, career advancement, and workloads which means that faculty salaries are not different across the areas of study because all three

variables of the study were not significant. Also, the analyses related to gender differences in career development and faculty workloads found no evidence that was unfavorable to female faculty.

Bhatti (2012) estimated Mincer (1974)'s semi-logarithmic wage function for the French and Pakistani labor force data. Quantile regression and instrumental variables, two-stage least squares approaches are used to deal with the endogeneity and measurement error biases. For the correction of the sample selection bias, the Heckman (1979) two-step procedure is applied. The model is also estimated semi-parametrically. The adaptive estimation method is applied to control the adverse effects of heteroscedasticity. It is found that the parametric specification of the Mincer model is the more appropriate one and schooling is found to be endogenous for both countries. Quantile regression results revealed that different explanatory factors affect differently in different parts of the wage distribution for France and Pakistan.

Tonurist and Pavlopoulos (2014) investigated institutional factors affecting wage differences between part-time and full-time workers in Germany. Data from the German Socio-Economic Panel (SOEP) for the period 1991-2008 were analyzed. Quintile regression and counterfactual wage decomposition analysis were applied. Results showed that part-time workers receive lower returns at the lower end of the wage distribution, showing the segmentation of the labor market. At the top of the wage distribution, the part-time wage gap is the result of the difference in the characteristics of the workers. The counterfactual wage decomposition showed that at the bottom of the distribution, the wage gap due to differences in the returns to the socio-economic characteristics, is dominant. It was suggested to concentrate more on the low-wage part-time workers that could break the locking into low-wage employment and in this area, regulation for labor protection might be effective.

Merkin and Shah (2014) investigated the comparative differences in perceptions of sexual harassment impacting job satisfaction, turnover, and absenteeism for employees in Pakistan and the United States of America (USA). Primary data were collected by using a convenience sampling technique from 146 respondents in Pakistan and 102 respondents in the USA through a questionnaire. Using MANCOVA analysis for job satisfaction, turnover intentions, and absenteeism as dependent variable, results showed that sexually harassed employees in Pakistan have less job satisfaction, great turnover intentions and high rate of absenteeism as compare to employees in the USA. Similarly, to deal with the sexual harassment, compared to the USA women, Pakistani women are more likely to choose indirect strategies. The study suggested that the increased awareness from intercultural sexual harassment research

should encourage multinational corporations to apply sexual harassment policies across different cultures.

Anton and Bustillo (2015) examined the public and private sectors' wage gap, gender gap, and the whole earnings distribution in Spain. Secondary data from Wage Structure Survey 2010 were utilized in the analysis which contains information on monthly and annual wages earned by more than 200,000 salaried employees of public and private sectors. For analysis, Oaxaca-Blinder decomposition and quantile regressions are used to estimate wage gaps. The results showed a positive wage premium for public sector employees and this premium is focused on low-skilled workers while high-skilled individuals in the public sector suffer a pay penalty. The gender gap is found to be larger in the private sector. The public sector employees enjoy a lower wage premium compared to the private sector in the education, health, and social work sectors. It is concluded that downsizing of the public sector employees might have adverse effects on earnings inequality and broaden the gender wage gap.

Fareed and Jan (2016) evaluated Herzberg's two-factor theory by investigating the association between different motivational factors and job satisfaction among the bank officers in KPK. Primary data was collected through a questionnaire. Bank officers of different ranks in both public and private sector banks in Peshawar district constituted the population for the current study. A sample of 418 bank officers was randomly selected out of a total of 625 officers. Descriptive statistics, regression analysis, and Cornbach alpha techniques were used as statistical tools to statistically analysis the data. The results indicated that job satisfaction is significantly affected by factors like relationship with supervisors, company policy, salary, social status, and working conditions. Herzberg's motivators have no significant relationship with job satisfaction.

4. Methodology and Data

Mincer's human capital earnings function was developed in the context of wage and salary income card (1999; 2001). Now, it has become a popular methodology to measure the gain from education using OLS regression based on Mincerian equation. The suggested regression has been widely used in the literature dedicated to returns to education and wage differences (Belzil, 2006). Therefore, in the current study, Mincer (1974) equation is modified and used for earnings analysis.

Working women earnings (WWE) is measured by taking the natural log of annual salaries. Log of salary is often used in salary studies because it creates a more normal distribution of salaries so that basic assumptions of linear regression may not

be violated. The log of salary creates a better fit for regression, which is important if results from a sample are generalized to a population. The dependent variable, annual salary, is measured in Pakistani rupees. Haignere (2002) suggested that the log of salary may be used only when the highest individual salary is ten times larger than the lowest individual salary which is the case in the current study.

According to Bhatti (2012), public sector institutions are those institutions which are run by law under the authority of federal government or provincial governments, public limited companies and corporations, local bodies, boards and commissions. Organizations and institutions which are the property of individuals of a country are included in the private sector of the economy. Estevez-Abe and Hethy (2008) in study of public and of private sector employment found very consistent positive effects of public sector employment for women's earnings both at individual level and at country level. The process of wage determination is different in public and private sectors, therefore, sector of employment substantially affects wages of employees (Lall and Sakellariou, 2010). This significant impact of the sectors on earnings is found in studies done in Pakistan (Hyder, 2007; Qureshi, 2012). Looking into the importance of this institutional factor, a dummy variable is included in the analysis for sector of the job. Now-a-days, it is a common phenomenon that male and female staff work in offices jointly. Sexual harassment occurs when there is an interaction of both sexes at the work place. It causes and is responsible for absenteeism, tardiness, sick leave, and turn over intentions of the female employees. Even this phenomenon has very harmful impacts on productivity and physical health of the employees. All these consequences of sexual harassment are negatively associated with the efficiency of the employees (Shaffer et al., 2000). Sexual harassment is also an institutional issue in KP which demands serious investigation. Therefore, the current study includes sexual harassment as a dummy variable in the analysis of women's earnings which are the victims of this evil deed. In the current study, status of the job stands for status of the working woman as a permanent employee working full time in an institution or working as a contract, part time, visiting or ad-hoc employee. Job status is used in the current analysis because it also influences wages as found by the previously conducted studies (Gardeazabal and Ugidos, 2005).

Satisfied worker is the key source of the development and extraordinary performance of an organization. Job satisfaction of the working women is an important institutional factor affecting the efficiency, productivity, contribution, and outcome of the employees in institutions. All these factors add to the earnings of the employees (Grant, 2010). Employees work in an organization for the purpose to earn income. Ultimately, job satisfaction impacts earnings of the working women. Little attention

has been focused on the relationship between pay level and job satisfaction. Thus, it is interesting and valuable to explore the relationship of earnings and job satisfaction.

The current study investigated the impact of institutional factors on working women' earnings with the help of the following empirical model specified through Ramsey RESET test. The equation of institutional factors having bearing on female earnings is given as follows:

$$WWEs = \gamma_0 + \gamma_1 SCH + \gamma_2 EXP + \gamma_3 EXP^2 + \gamma_4 EXP^3 + \gamma_5 PUB + \gamma_4 HRS + \gamma_5 CONT + \gamma_6 JS + \phi$$

where:

WWEs = working women earnings

SCH = Years of schooling

EXP = Years of total experience

PUB = Sector of the job

= 0, if woman is employed in private sector

= 1, if employed in public sector

HRS = Prevalence of harassment at the work place

= 0, if working woman experienced no harassment

= 1, if harassment is experienced

CONT = Status of the job

= 0, if woman is a permanent employee

= 1S, if woman is working on contract, part time, visiting, or ad-hoc capacity

JS = Job satisfaction of the working women

= 0, if working woman is not satisfied

= 1, if satisfied

ϕ = Error term that satisfies the classical linear regression model assumptions.

Data were collected through questionnaire and field survey in 2019. Questionnaire was pretested by distributing questionnaires to get prior information on the questionnaire. Some deficiencies found in the questionnaire were corrected and the issues solved by modifying the questionnaire. In the current study, target population is the working women in the twenty-six districts of KP. Cluster sampling technique is commonly used for survey data in large geographical areas where clusters are homogeneous with respect to one another and there is heterogeneity within the clusters. Also when sampling frame of all elements is not available, cluster sampling technique is the best strategy of sampling (Bennett et al., 1991). Ten districts of KP including Peshawar, Nowshera, Charsadda, Mardan, Abbottabad, Bannu, Swat, Dera

Ismael Khan, Mansehra and Swabi were selected by Simple Random Sampling (SRS) technique as sampled clusters for study population. A total of 1000 questionnaires were distributed in the study area by convenience sampling technique. A sample of 789 female respondents returned questionnaires in the rural and urban areas of the study population and primary data were collected.

5. Empirical Results

Before the presentation of the empirical results of the model, some demographic characteristics of working women have been tabulated in order to get an overall picture about working women in the study area. Table 1 shows the rural urban distribution of working women in the study area. Survey data reveals that there is a minor difference between the areas of residence of the employed women since 48.92 percent belong to rural area and 51.08 percent belong to urban area and on the other hand, it is observed that 54.88 percent of the sampled women are performing jobs in rural area while 45.12 percent are doing jobs in urban area.

Table 1. Place of Residence and Job, n=789

Residential Area	Frequency	Job Area	Frequency
Rural Area	386(48.92%)	Rural Area	433(54.88%)
Urban Area	403(51.08%)	Urban Area	356(45.12%)

Source: Qadir and Afzal (2019).

Table 2 shows the distribution of working women with respect to educational qualification. Survey data indicates that 60.08% of employed women in the study area are having 16 years of education which is the highest percentage and shows that most of the women are master degree holders. On the other end, 0.63 percent of working women are with 10 years of education showing that the number of working women with matric level of education is the smallest. Also 19.01% are having 14 years, 6.97% are having 12 years, 6.34% are 18 years, 5.07% are having 17 years and only 1.90% is having 21 years of education in the sampled working women. It is evident from Table 2 that women have received a variety of education from Matric to PhD level of education in the study area.

Table 2. Educational Qualifications, n=789

Education	SSC or Equi.	F.A./F.SC or Equi.	B.A./B.SC or Equi.	M.A/MSC or Equi.	MBBS Degree Holder	M.Phil. Degree Holder	PhD Degree Holder
Freq./ (%age)	05 (0.63%)	55 (6.97%)	150 (19.01%)	474 (60.08%)	40 (5.07%)	50 (6.34%)	15 (1.9%)

Source: Qadir and Afzal (2019).

Note: Freq.= Frequency, Equi. =Equivalent, %age = Percentage.

Table 3 shows that 66.92% of the sampled women are permanent employee and 33.08% belong to contract, part time, adhoc or visiting category. So the percentage of permanent employees is larger than the other category. It is obvious that most of the working women are working in a permanent capacity in the study area.

Table 3. Job status, n=789

Job status	Freq.	Percent
Permanent	528	66.92
Part-time/contract/adhoc/visiting	261	33.08
Total	789	100

Source: Qadir and Afzal (2019).

Table 4 shows that 90.75% of working women are satisfied from their duty and work. Only 9.25% responded that they are not satisfied with their job and obligations. It is interesting to note that in spite of the problems and difficulties in daily life routine while performing their jobs, working women are satisfied from their daily life routine and job.

Table 4. Response to job satisfaction, n=789

Job satisfaction	Freq.	Percent
Yes	716	90.75
No	73	9.25
Total	789	100

Source: Qadir and Afzal (2019).

Table 5 indicates that out of the sampled working women, 87.71% are public sector and 12.29% are private sector employees. This shows a high trend of women employment in the public sector because they feel secure and satisfied in this sector.

Table 5. Job Sector, n=789

Job sector	Freq.	Percent
Private	97	12.29
Public	692	87.71
Total	789	100.00

Source: Qadir and Afzal (2019).

The below Table 6 shows the prevalence of sexual harassment in the study area at the work place. Table shows that 61.60% working women have not experienced any kind of harassment. But 38.40% have replied that they have perceived sexual harassment at their respective work places. This is also a large percentage of working women admitting that they have experienced some sort of sexual harassment which is not ignorable.

Table 6. Existence of Harassment, n=789

Existence of Harassment	Freq.	Percent
No	486	61.60
Yes	303	38.40
Total	789	100.00

Source: Qadir and Afzal (2019).

5.1 Ordinary Least Squares (OLS) Regression and Diagnostic Tests Results of the Model

OLS estimation and diagnostic tests results of the regression model are presented in this section. First of all, we present the OLS estimation results of the model in the following Table 7.

Table 7. OLS Estimates of Earnings Model, n=789

Variables	Parameter Estimate	Standard Error	t-value	P-value
SCH	.1343344	.0077291	17.38	0.000
EXP	.0503934	.0026567	18.97	0.000
PUB	.1833268	.0418206	4.38	0.000
HRS	.0154627	.0264116	0.59	0.558
CONT	-.0148803	.0334396	-0.44	0.656
JS	.0167208	.0448361	0.37	0.709
Cons	10.35117	.1492299	69.36	0.000
R-Squared	= 0.523	F-Statistic	= 145.57	
Adj. R-Squared	= 0.524,	Probability	= 0.00001	

Source: Research finding.

The above Table 7 shows estimation results of the Mincer wage regression model which includes institutional factors. The highly significant p -value for F -statistic shows that overall model is significantly explaining variation in the earnings of working women. High value of R^2 (.52) indicates that 52 percent of variation in the dependent variable earnings is explained by the set of explanatory factors.

Estimation results show that wages increased by 13% with each additional year of schooling. This impact of education on earnings is found to be slightly less than that established by Abbas and Foreman-Peck (2007) (14%). The reason behind this fall is that we have included a number of institutional factors along with the human capital variables in the earning model which they have not included in their analyses in the OLS specification causing a decrease in the returns to education for female working women.

The return to experience is estimated 5% for each additional year spent in the labor market which is greater than the impact found by Bhatti (2012) 3.04% for Pakistani data and is less than 7% found by Kim (2011) in New York in a study for gender salary gap.

Regarding public and private sector wages, public sector employees are earnings significantly higher wages. The wage premium for public sector employees is higher as much as 18% as compared to the private sector women employees (reference category). This result is in line with that of found by Hyder (2007). Anton and Bustillo (2015) in their study on public-private sector wage differentials in Spain have explored the premium to public employment for both male and female employees. But these results are in contrast with those indicated by Bhatti (2012) who found 8.4% high wage premium for private sector employees.

The impact of harassment on earnings is insignificant and found to be very much less as 1% higher for those women who reported the prevalence of harassment or who perceived harassment at their work place against the women who responded "No" to the question of the prevalence of the sexual harassment at the work place (reference category). So we can say that the impact of harassment on the earnings of working women is quiet low and insignificant in the study area.

Results also showed that the permanent women workers (reference category) are paid annually 1.4% more than contract, ad-hoc, visiting, and part time women workers in the study area. So permanent women workers are enjoying a higher wage premium than the non-permanent women workers. Bhatti (2012) also found that there are no significant differences in wages of individuals working temporarily and under fixed term contract but the impact of working under a permanent contract get 23% and 22%

higher salaries as compared to those working under fixed term contract and who work temporarily, respectively.

The coefficient of job satisfaction shows that women workers who responded that they are satisfied with their job earn 1.6% more annually than the women who are not satisfied with their job. But this impact is insignificant. Our results are in line with those found by Judge et al. (2010) in estimating the correlation between pay level and job-satisfaction suggested that pay level was correlated ($r = .15$) with job satisfaction and pay level is only marginally related to job satisfaction suggesting that level of pay has a positive but fairly modest relationship to job satisfaction.

5.2 Specification and Diagnostic Tests Results

This section is devoted to various tests of specification and diagnosis of various problems that may occur in OLS regression analysis. Heteroscedasticity is the problem usually found in cross sectional data. So we checked for heteroscedasticity by using famous Breusch-Pagan test. In the following Table 8, popular Breusch-Pagan test results for checking the heteroscedasticity of variance of the residuals are given. P-value greater than .05 suggests that we cannot reject the hypothesis of homoscedasticity in the residuals in this wage regression model.

Table 8. Test of Heteroscedasticity

Heteroscedasticity Tests Results of the Model, n=789				
Test	Coefficient	Test-statistic	Prob	Result
Breusch-Pagan Test	2.95	χ^2	0.0858	Insignificant

Source: Research finding.

The problem of multi collinearity is created when the explanatory variables are correlated with one another. To check whether multi collinearity exists, usually Variance Inflation Factor (VIF) is used. Variance Inflation Factor (VIF) is a rigorous check for checking multi collinearity among regressors. For checking multi collinearity, the rule of thumb is that if $VIF > 5$, then multi collinearity is a problem. The following Table 9 shows results for VIF and no value is greater than 5. Which suggests that there is no problem of multi collinearity among the independent variables and the regressors are independent of each other. Therefore, multi collinearity is not a problem in this wage regression.

Table 9. Variance Inflation Factor Test Results

Variable	VIF	1/VIF
SCH	1.01	0.986471
EXP	1.41	0.710549
PERM	1.55	0.643531
PRIV	1.18	0.844709
JS	1.06	0.943784
HRS	1.04	0.965375
Mean VIF	1.21	

Source: Research finding.

One of the assumptions of the linear regression model is that the residuals are normally distributed. Therefore, we check the normality of the residuals by popular Jarque-Bera and Shapiro-Wilk W tests. In both tests of normality, P-Value is greater than 0.05 and we cannot reject the hypotheses of normality suggesting that residuals are normally distributed. So the assumption of normality of the residuals is hereby not violated in the regression analysis as shown in the following Table 10.

Table 10. Normality Tests Results of the Model, n=789

Tests	Coefficient	Test-statistic	Prob	Result
JB Test	3.316	χ^2	0.19	Insignificant
Shapiro-Wilk W test	1.425	Z	0.07	Insignificant

Source: Research finding.

6. Conclusion

The current study conducted to investigate the impact of various institutional factors on working women earnings in ten districts of Khyber Pakhtunkhwa, Pakistan. Primary data were collected through a comprehensive questionnaire and analyzed by using STATA and SPSS soft wares. Parameters are estimated through OLS estimation technique. Mincer wage regression model included human capital variables and institutional factors. It is concluded that overall model is significantly explaining variation in the earnings of working women. A wage premium of 13% and 5% for human capital variables of schooling and experience is investigated respectively. There is a significantly higher wage premium for public sector employees as compare to the private sector women employees. The current study concluded a very small insignificant wage premium for the permanent women workers, 1.4% more than contract, ad-hoc, visiting, and part time women workers in the study area. The impact of harassment and job satisfaction on earnings is insignificant and found to be very much less as 1% and 1.6% respectively. It is suggested that future research could be

done on these results for providing theoretical foundations for the reasons that why job satisfaction has a little potential for high wage premium.

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Appendix

Table A1. Heteroscedasticity Tests Results of the Model, n=789

Test	Coefficient	Test-statistic	Prob	Result
Breusch-Pagan Test	2.95	χ^2	0.0858	Insignificant

Source: Research finding.

Table A2. Variance Inflation Factor Test Results

Variable	VIF	1/VIF
SCH	1.01	0.986471
EXP	1.41	0.710549
PERM	1.55	0.643531
PRIV	1.18	0.844709
JS	1.06	0.943784
HRS	1.04	0.965375
Mean VIF	1.21	

Source: Research finding.

Table A3. Normality Tests Results of the Model, n=789

Tests	Coefficient	Test-statistic	Prob	Result
JB Test	3.316	χ^2	0.19	Insignificant
Shapiro-Wilk W test	1.425	Z	0.07	Insignificant

Source: Research finding.



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