

## **Impact of Cultural Factors on Earnings of Working Women in Khyber Pakhtunkhwa, Pakistan**

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### **Abstract**

There has been a substantial increase in women's work participation in the recent years. As a result, their contribution to household income has increased. But there are several cultural factors which are considered to be operational in explaining earnings of working women across countries and regions. For gaining knowledge of these factors, the current study used human capital variables (schooling and experience) along with some important cultural factors like family size, number of children, marital status of working woman and restrictions of permission for doing job as explanatory variables. Primary data were collected from ten (10) randomly selected districts of Khyber Pakhtunkhwa (KP) province of Pakistan from 789 respondents in the year 2017 through a comprehensive questionnaire. After conducting the diagnostic tests, the Mincer wage function was estimated through Ordinary Least Squares (OLS) regression technique. Results of regression analysis showed that earnings, on average, rise 9.6 percent with each additional year of education and 6.1 percent with each additional year of experience. The working women earnings showed an increase of 5.9 percent annually if there are no restrictions of permission for doing job. Family size showed a significant negative impact (1.9 percent) on working women earnings. Marital status and number of working women own children have an insignificant negative impact (1.5 and 1.6 percent respectively) on female earnings. It is concluded that cultural factors have an important impact on earnings of working women in KP province of Pakistan.

**Keywords:** Cultural Factors, Khyber Pakhtunkhwa, Mincer Wage Function, Women Earnings.

### **Introduction**

Culture includes those beliefs and values that a society transfers properly unchanged from one generation to another generation. These beliefs and values of culture influence economic outcomes. This definition of culture indicates a causal effect from culture to economic outcomes (Guiso, Sapienza & Zingales, 2006). Culture transmits traditions of the society from past to the present. It demonstrates values, attitudes and behaviors that have a substantial impact on economic development and is perceived as a type of productive force (Greif, 1994). Culture, politics and economics are considered as three important components of the development of a society (Xuewen, 1997). In spite of the fact that culture creates values, skills, products and communication that help in promoting the social and economic happiness within a community, the role of the culture in the economic development is often ignored. These values affect efforts relating to economic development (Sen, 1997).

Max Weber (1905) in the beginning of the twentieth century argued that specific culture was favorable to capital accumulation. According to Landes (1998), culture plays a key role in explaining the differences in economic growth across countries. Putnam (2000) highlighted the role of social capital in smoothing economic exchange and efficient governance. Recently economists have started using modern techniques, empirical tools and analytical framework for the explanation of the rela-

tionship of culture and economic outcomes with the help of updated modern data. Now cultural hypotheses can be tested carefully for important economic issues (Guiso *et al.*, 2006).

The past century observed a remarkable increase in married female labor force participation in the formal labor market. This transformation is due to the growth of the clerical sector, technological change in the household and in the work place, decrease in women discrimination, changes in divorce law, and the availability of child care facilities to the working women (Fernandez, 2008). There is a recent body of research showing the role of culture in explaining variation in women engagement in market work (See, for example, Antecol, 2000; Burda, Hamermesh & Weil, 2007). Although economists are inclined to have a doubtful approach towards cultural explanations, recent studies show that culture helps in explaining variation of women engagement in market work across countries. Changes in culture or in social norms about women's role have had a significant impact on the growth of women's market work (Ollala, Lidia & Vella, 2007).

More recently, the culture of house-woman in Pakistan has changed and the growth of women's market work has increased. Women are receiving higher education for the purpose of employment and economic gains as high inflation rate in the goods and services markets has negatively affected the household budget (Nawaz, Afzal, & Shehzadi, 2013). They are now supporting household expenditures and upgrading their standard of life in the society. Women are now performing jobs in different occupations and sectors of the economy. This has changed radically the status of women in the society (Avais, Wassan and Shah, 2014). However, this cultural change has brought about a lot of problems and issues for working women at the household level as well as at the work place.

In Pakistan, total labor force participation rate (TLFPR) is 32.3 percent and female labor force participation rate (FLFPR) is 15.8 percent. In Khyber Pakhtunkhwa (KP), FLFPR is 9.90 (Government of Pakistan, 2016). FLFPR is quite low (9.9%) in KP as compared to Pakistan (15.8%) which could be ascribed to multidimensional factors like social, economic, political, religious, cultural, demographic and institutional. The society in KP is male dominated with traditional values and norms. In such a situation, although working women are performing their duties, their life is tough. Ultimately these factors may also have a strong impact on earnings of working women in KP.

Individual earnings are considered important for the development of a society and poverty reduction at the household and national level. Females constitute about half of the total population in Pakistan and play a very significant role in the economy. They increase productivity of the economy and their earnings not only contribute to the family income but also help in reducing poverty as well. Therefore, the analysis of the working women earnings (WWE) is necessary and helpful in determining employment policy and framing policy for human resource development and growth of the economy (Faridi, Chaudhry & Anwar, 2009).

Different studies have been done in Pakistan on female participation in income generating activities (Maqsood, Chaudhry, Zia & Cheema, 2006). Also studies conducted on working women are related to the analysis of human capital variables and earnings (Nasir, 2000; Abbas & Foreman-Peck, 2007; Aslam & Kingdon, 2009). These studies used secondary data sources for analysis. Some studies on primary data include (Nawaz *et al.*, 2013) in Bahawalnagar district, (Faridi *et al.*, 2009) in Bahawalpur district, and Naqvi and Shahnaz (2002), are related to the labor force participation decision of Pakistani women and the earnings of working women and its impacting cultural factors are ignored.

The current study used primary data collected from ten randomly selected districts in KP and is wide in nature and scope with respect to respondents. Since no study has been conducted in KP on earnings of working women and its impacting cultural factors, this study will be a primary endeavor to analyze WWE and its impacting cultural factors in KP. Therefore, objective of the current study is to

examine the impact of cultural factors on working women' earnings in KP using modified Mincer human capital earnings function.

### **Significance of the study**

Women are important segment of any society for their contribution to income generating activities in an economy. So addressing the issues hindering their earnings is also a significant topic to be discussed. This study highlights the cultural problems and issues of employed women and their earnings and gives possible suggestions for their solution which will help in framing policies for human resource development in KP and will provide a guide line for the rest of the provinces in Pakistan.

From available literature, a major share is devoted to the labor force participation decision of working women (see, for example, Maqsood *et al.*, 2006; Avais *et al.*, 2014) and it is obvious that inadequate importance has been given to the cultural factors and earnings of employed women in KP. So this study is unique in the sense that it has analyzed the primary data of formal sector employed women in KP working in different departments, occupations and areas, and will add to the existing literature a valuable piece of information about the cultural issues, problems of working women and their economic outcomes. This study collected data from ten randomly selected districts of KP and is a representative study of the working women in KP as compared to the previously conducted studies. This study can make valuable contribution because the present study is based on rigorous regression analysis and explain variation in earnings across various cultural factors. Furthermore, studies having relevance to the objective of the current study are reviewed.

### **Literature Review**

Review of literature enables a researcher to have a deep insight of the research problem at hand. It enhances the back ground knowledge of the researcher regarding the nature of the topic. Therefore, for the purpose of the current study, a reasonable amount of literature review is presented as follows;

Nazar and Chaudhry (2017) investigated wage differentials caused by cultural factors like gender, marital status, and residential location in district Multan. Results of the Ordinary Least Square (OLS) regression showed that wage earners have higher returns to education. Also employees of urban areas, unmarried employees and employees who got schooling in English medium schools have higher returns to investment in education.

Petro, Annastazia and Robert (2014) investigated the impact of socio-cultural factors on the performance of women in income generating activities in two districts of Tanzania. Cross sectional data were collected using questionnaire. For the purpose of analysis, logistic model was used. Findings of the study show that women immobility, poor support from society members and ethnicity negatively affect the performance of women working in Small and Medium Enterprises (SMEs). On the other hand, family responsibilities, level of education and role models positively affect the performance of women in SMEs. It is concluded that socio-cultural factors have a negative impact on working women performance in SMEs.

Whitehead (2011) assessed the effect of cultural factors on female labor force participation by using secondary panel data from 45 countries. Using Random effects and fixed effects regression models, the classical labor supply model was augmented by cultural variables like fertility rate, religion, government type, government spending, citizen views of work, the fulfillment of being a housewife and women in the workforce. Results showed that cultural and social norms had an important effect on female willingness to supply labor in the market.

Aslam (2009) investigated the effect of different cultural factors on earnings using Pakistan Integrated house hold Survey (PIHS) data for the Pakistani labor market. Earnings functions were estimated using OLS, two stage least square (2SLS), and fixed effects models. The instrumental variable (IV) 2SLS estimation procedure produced higher returns to schooling estimates than the OLS method. Two-step Heckit method was used to correct for sample selection bias. Results showed that the estimated returns to schooling ranges between 7% and 11% for men and between 13% and 18% for women.

Din and Khan (2008) did a study on the cultural restrictions which are faced by women living in rural areas of district Mardan, North West Frontier Province (NWFP). Results of the primary data and descriptive statistics showed that women living in rural areas have a very limited cultural role along with a low status and standard of living. Cultural restrictions like young age marriage, limitation of women to indoor activities, low access to health facilities, and no choice of selecting a life partner are common in the study area. Khan and Khan (2006) verified the impact of cultural factors on contribution of employed working women in the household budget and found a positive impact of female as household head, education, nuclear family, marital status and ownership of assets on their contribution in household budget. Non-linear effect of age on their contribution in household budget was observed.

Fernandez and Fogli (2005) studied the effect of culture on economic outcomes in US. They examined the work and fertility behavior of women born in the U.S, but whose parents were born elsewhere. The 1970 Census data were used. Results showed that cultural proxies have positive and significant explanatory power for individual work and fertility outcomes. Tabellini (2005) measured culture as the constituent of four values: trust, beliefs in the importance of individual effort, morality, and obedience. Data were obtained from questions on the World Values Survey. He documents that both GDP per capita and growth are higher in those regions that exhibit higher levels of the “good” cultural values.

Lemieux (2003) evaluated the empirical performance of the standard Mincer earnings equation after thirty years of the publication of the Mincer book “Schooling, Experience and Earnings”. It was found that still Mincer equation remains an accurate bench mark for estimating wage determination equation if a quadratic function is included in potential experience and years of schooling in Mincer wage function. Also it may be adjusted for allowing cohort effects to capture the dramatic growth in returns to schooling among cohorts born after 1950.

Naqvi and Shahnaz (2002) studied the impact of cultural factors on female participation in income generating activities in Pakistan using data from Pakistan Integrated Household Survey (PIHS) (1998-99). The results of Probit and Multinomial logit models showed that age, education, marital status, employment status of the head of the household, presence of male members in the family, children of ages 0–5 of working women are important factors which affect significantly the women economic participation decisions.

Nasir (2002) investigated the impact of human capital variables, literacy index, technical training, locality, gender, and job sector and school quality on the earnings of regular wage employees in Pakistan. Mincer wage model was used for the PIHS (1995-96) survey data analysis. Results showed that a unit increase in schooling increases earnings by 7.9 percent, a unit increase in experience causes 4.7 percent increase in wages. Results also showed significant differences across provinces, being a male, having training and being studied at private school. Study also reported higher wage premium for public sector employees and that female workers receive lower earnings as compared to male workers for their education and experience.

Shabbir (1994) studied the effect of human capital variables, occupational categories, provincial effects and locality of residence variables on earnings of male respondents in Pakistan. The Mincer wage model was used for analysis. Results showed that each additional year of schooling increase monthly earnings by 7-8%, while returns to experience were about 6% and males in Punjab earn less as compared to other provinces. Urban area employees are earning more than rural area in all provinces except the males in KP. Gwartney and Long (1978) examined the impact of schooling, age, marital status, location of individuals, hours worked, racial differences on earnings in the US labor market. Using the Mincerian model, they found substantial differences in returns to schooling for both males and females. The hours worked was found to have significant effects on earnings in all regressions. Marital status found significant for males while insignificant for females. Location of individuals was significant with expected sign.

Mincer (1962) checked the association of working hours and female labor force participation overtime. He exposed that income of the family has no influence on the wife's demand for leisure. He reported a negative relationship of the life time wealth and labor force participation. Results showed that the female labor force participation decision is negatively affected by number of children of a working woman.

It is obvious from the above review of literature that researchers have used demographic and cultural factors along with the standard human capital variables in the Mincer earnings function. Using survey data and panel data as well as primary data sources, researchers have used various analysis techniques i.e. OLS, fixed effect model using instrumental variable approach for correction of endogeneity, Multinomial, Logit and Tobit models for the analysis for earnings and female labor force participation decision in income generating activities. Also different steps have been taken to resolve econometric issues like measurement error and sample selection bias. The current study is mainly concerned with the analysis of cultural problems and working women earnings using OLS technique.

### **Methodology and Data**

**Empirical model of the present study:** Empirical model of the present study is given below:

$$WWE = \beta_0 + \beta_1 SCH + \beta_2 EXP + \beta_3 FS + \beta_4 MS + \beta_5 CHD + \beta_6 PR + \psi \quad (1)$$

Where

WWE = the natural log of working women annual earnings

SCH = years of completed education by working woman

EXP = total number of years of service by the working woman in various institutions starting from the very first job

FS = number of family members of the working woman excluding her own children

MS = marital status of working woman and is

= 0, if working woman is unmarried

= 1, if married

CHD = number of children of working woman in the house hold

PR = restrictions of permission and is

=1, if restrictions exist

=2, if there are no restrictions on woman in the study area

### **Justification of the variables**

Although the previous studies done in Pakistan used annual (Khan & Toor, 2003), monthly (Siddiqui & Siddiqui, 1998) and hourly (Guisinger, Henderson, & Scully, 1984) wages as response variable in Mincer's earnings function. Mincer in his human capital earnings function (Mincer,



1974) used log of annual earnings as dependent variable. Annual income is obtained from monthly salary of the employed women multiplied by twelve, in Pakistani rupees (PKR). Kozel and Alderman (1990) used education as years of completed education in their study. For the current study, ten years for “Matric level schooling”, twelve years for “Intermediate level”, 14 years for “Bachelor level”, 16 years for “Bachelor level” and nursing course, 16 years for “Master level”, 17 years for MBBS degree holders, 18 years for “M.Phil. level” and 21 years for “Ph.D. level” education have been assigned as Jamal (2015) did in his study of private returns to education in Pakistan. Different studies have used age as a proxy for experience (Khan & Irfan (1985); Ashraf & Ashraf (1993)). The present study used actual years of service of an employee in various departments with different posts reported by employee himself. This information enables us to calculate total years of labour market experience. It is believed that family size may have effect on earnings and participation decision of women in labour market. Researchers estimating selection equation for women earnings have recognized significance of the family size (For example, Lei, 2005; Bhatti, 2012). Nasir (2002) examined that marital status also affects individual’s earnings in Pakistani labor market. Many researchers in the developed and developing countries (Belton & Kniesner, 1984; Vinod & Smyth, 2010; Petro, Annastazia & Robert, 2014) have included number of working woman children as explanatory variable. In the culture of KP, woman is facing certain restrictions regarding mobility. She needs permission from her father, mother, brother or husband after getting married for going out from home for education, job, shopping, and even for going to the hospital for treatment of illness. Therefore, a question is included in the questionnaire to assess the impact of restrictions of permission on the earnings of working woman in wage regression model.

#### *Estimation technique*

The human capital earnings function was developed in the context of wage and salary income (Mincer, 1974). Now, it has become a common methodology to measure the gain from education using OLS regression based on the Mincerian equation (Card 1999, 2001). The suggested regression has widely been used in the literature dedicated to returns to education and wage differences (Belzil, 2006). Mincer modelled the natural logarithm of earnings as a function of years of education and a quadratic function of years of potential labour market experience.

$$\ln y = \ln y_0 + r S + \beta_1 X + \beta_2 X^2 \quad (2)$$

Where  $y$  is earnings,  $y_0$  is earnings of an individual without any education and experience,  $S$  is years of schooling and  $X$  is years of potential labor market experience. The coefficient  $r$  is the rate of return to an additional year of education. Literature review suggests various models and methods of analysis. In this study, Mincer wage function will be estimated through OLS regression technique.

#### *Data*

In this study, working women in the twenty-six districts of KP was the target population. Data were collected through questionnaire and field survey in the year 2017. 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. 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, Woods, Liyanage & Smith, 1991). District Peshawar, Nowshera, Charsadda, Mardan, Abbottabad, Bannu, Swat, Dera Ismael Khan, Mansehra and Swabi were selected by 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.

### Results and Discussion

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 54.9 percent of the sampled women are performing jobs in rural area while 45.1 percent are doing jobs in urban area.

**Table 1. Working women's place of residence and job, n=789**

Residential Area	Frequency	Job Area	Frequency (% age)
Rural Area	386 (48.92%)	Rural Area	433 (54.9%)
Urban Area	403 (51.08%)	Urban Area	356 (45.1%)

Source: Field survey, 2017

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 the table 5 that women have received a variety of education from Matric to PhD level of education in the study area.

**Table 2. Working Women's 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: Field survey, 2017 Note: Freq.= Frequency, Equi. =Equivalent, %age = Percentage

Survey data shows that the number of married women in labor market is greater than the number of un-married women in the study area. It is due to the fact that people in KP are more traditional than other provinces of the country and they hardly allow their young females to perform job in an office or other institution in combination with their male staff members. After being married, with the permission of the husband, females perform job to support family budget and to cooperate with the husband to run family system. Therefore, a large number of females join their jobs after their marriage. In the current survey, Table 3 indicates that 66.41 percent of the working women are married and 33.59 percent are un-married females performing their jobs in various institutions.

**Table 3. Working Women's Marital Status, n=789**

Marital status	Frequency	Percent
Un-Married	265	33.59
Married	524	66.41
Total	789	100.00

Source: Field survey, 2017

#### Empirical Results of the Model

The estimation results of earnings function based on OLS regression are given in the following Table 4. These results are obtained by using soft wares like Statistical Packages for social sciences (SPSS) and STATA 13 version. Primary data were entered in the SPSS and then the data were imported to STATA for the purpose of analysis.

**Table 4. Empirical Results of Earnings Model, n = 789**

Variable	Coefficient	Std. Error	t-Statistic	Prob
Constant	8.7899	0.2249	39.07	0.000
SCH	0.0962	0.0074	13.05	0.000
EXP	0.0613	0.0026	23.52	0.000
EXP <sup>2</sup>	- 0.0038	0.0004	- 9.05	0.000
AFI	0.2193	0.0177	12.36	0.000
FS	- 0.0195	0.0038	- 5.08	0.000
CHD	- 0.0163	0.0086	- 1.88	0.060
MS	- 0.0157	0.0388	-0.46	0.644
PR	0.0597	0.0233	2.57	0.011

R-Squared = 0.64, Adj R-Squared = 0.63

F (8, 780) = 174.80, Prob (F-statistic) = 0.0001

The results from OLS estimation of earnings model show that the coefficient of education (SCH) turned out to be an important and significant coefficient in wage determination model. Estimation results show that earnings increased 9.62% with each additional year of schooling. This impact of education (SCH) on earnings found to be in agreement with the studies (Awan & Hussain, 2007; Nazli, 2004; Nasir, 2002; & Shabbir, 1994) using OLS specification of the Mincer earning function. But this impact is found to be less than that established by Aslam (2009), Abbas and Foreman-Peck (2007), 16.6% and 14% respectively.

The coefficient of experience (EXP) shows considerable increase in wages with each additional year spent in the labour market for female workers. The returns to experience with each additional year spent in labor market found to be 6.13% per year and significant which is greater than the impact found by Bhatti (2012), (3.045%) for Pakistani data. This trend of increase in earnings with the experience can be seen in other such type of studies for example Asadullah (2006), Ismail (2007) and many other studies. The negative coefficient of quadratic term for experience square (EXP<sup>2</sup>) shows that earnings-experience relationship is concave which is a common phenomenon in almost



all Mincer based studies (Bhatti, 2012). Earnings increases 6.13% in the start and reaches on the peak at 17 years of experience and then starts to decrease 0.03% for each additional year of experience.

Cultural factors and earnings model results show that a one percent increase in annual family income (AFI) results in an increase of 21.9% in earnings (WWE). This increase is significant and the highest of all other factors in the model. This indicates that women who belong to high income family are able to earn more as compared to the women of low income family. The reason may be that people with high level of income are more capable to educate their females up to university level education.

In the current study, family size (FS) includes total family members excluding working women own children. In KP, joint family system is normally favored against nuclear family system. Joint family system contains all the married and unmarried children, elder family members, brothers and sisters of the household head. The coefficient of family size (FS) is reported negative and significant shows that for unit increase in family size, on average, the annual earnings of working (WWE) woman decreases by 1.9%. This shows a meager negative impact of family size on the earnings of working women. This may be due to the fact that large family size decreases the probability of women participation in earning activities and women have to devote more time to house hold tasks. This result is interesting because Faridi *et al.*, 2009 reported positive sign between household size and female labor force participation.

It was also checked in the current study whether the number of working women own children (CHD) in the household have any impact on their earnings. The coefficient of children (CHD) variable is negative but insignificant. It shows that a unit increase in the number of children of working woman reduces, on average, the WWE by 1.63% and is negatively associated with the earnings of working women but this impact is insignificant. Also Faridi *et al.*, 2009 found in their study that women with 0 to 6 years of children are less likely to take part in economic activities because females have to look after their children appropriately.

Warunsiri and Mcnown (2010) found that earnings for married workers are lower (11.2%) than for un-married workers (12.6%). Nazar and Chaudhry (2017) also confirmed these results. On the contrary, Nasir (2002) and Korenman, Sanders and Newmark (1991) have reported higher premium for married male and female workers in their studies in Pakistan. So there is a confusing situation regarding marital status (MS) and earnings in Pakistan. The current study reported higher premium for unmarried working women as compared to married women in KP but this higher premium is statistically insignificant. Results show that married women is earning, on average, 1.6% less annually than unmarried working women in the study area. This is because married women entry into service is greater than unmarried women or they could spare less time to labor market as compared to unmarried women due to household chores. Also unmarried women are efficient and responsible in performing their duties as compared to the married workers.

It is the culture of the people of KP to restrict women to their homes. There are restrictions on their mobility to go out of home for doing job, to go out to attend family parties, to go out for shopping and even for getting education without permission from the male family members or household head. Current study also analyzed the impact of these restrictions on earnings of working women. The coefficient for restrictions of permission (PR) for doing job depicts that females with no restrictions of permission for doing job earn 5.9% more income annually than the women who reported that restrictions on their job exist in the study area. This impact is statistically significant. These results show that these factors have a considerable impact on the earnings of working women in KP province.

At the end of empirical analysis of the earnings model, results for F-statistic are presented. Results show that the model is significantly explaining the relationship of earnings and cultural factors. The value of  $R^2$  (0.64) is high which specifies that the set of regressors describes 64% of variation in the response variable earnings. This value of  $R^2$  is high from previously conducted studies in Pakistan (Bhatti, 2012; Abbas & Foreman-Peck, 2007; Khan & Toor, 2003; Shabbir, 1994; and Guisinger et al., 1984) showing more explanatory power of the earnings regression model of the current study.

#### *Specification and Diagnostic Tests for Earnings Model*

Results of the specification and diagnostic tests are given in the following Table 2. Ramsey (1969) suggested a test of specification error called regression specification error test (RESET). For checking the specification error of the earnings model, famous Ramsey RESET test was used. Results show that model used in this study does not suffer from specification and functional form problems because the F-statistic of Ramsey RESET test is insignificant. Breusch-Pagan and White's tests results suggest that the hypothesis of homoscedasticity in the residuals cannot be rejected in this wage regression model. It is one of the assumptions of the linear regression model that residuals must be normally distributed. Jarque-Bera and Shapiro Wilk W tests results were used for checking normality of residuals because these tests are commonly used for checking normality of residuals in regression analysis. Results of these tests show that the null hypothesis of the normality of residuals is not rejected. So the assumption of normality of the residuals is hereby not violated as shown in the following Table 5.

**Table 5. Model Specification and Diagnostic Tests Results, n= 789**

S.No		Test	Coefficient	Test-statistic	Prob	Result
01	Model Specification Test	Ramsey RESET	1.94	F-statistic	0.12	Insignificant
02	Heteroscedasticity	Breusch-Pagan	1.97	$\chi^2$	0.16	Insignificant
03	Heteroscedasticity	White's Test	31.07	$\chi^2$	0.18	Insignificant
04	Normality	Jarque-Bera	1.573	$\chi^2$	.455	Insignificant
05	Normality	Shapiro-Wilk W	1.203	Z	0.114	Insignificant

VIF is commonly used as an indicator of multicollinearity (Gujarati & Porter, 2008). Table 6 shows that the value of VIF for each variable is less than 10. Results suggest that there is no problem of multicollinearity among the regressors.

**Table 6. Variance Inflation Factor Test Results**

Variable	VIF	Tolerance
CHD	2.23	0.4478
MS	2.13	0.4686
EXP	1.78	0.5612

Variable	VIF	Tolerance
EXP <sup>2</sup>	1.48	0.6743
AFI	1.22	0.8212
FS	1.10	0.9101
SCH	1.21	0.8248
PR	1.04	0.9609
Mean VIF	1.53	

The diagnostic tests for earnings model show that the model is not suffering from the problems of model misspecification, heteroscedasticity, multi collinearity and non-normality of residuals. Therefore, the estimated coefficients may be considered unbiased, efficient and consistent.

### Conclusions

The current study carried out to find the impact of cultural factors on earnings of working women in KP province of Pakistan. Primary data were collected through questionnaire on a sample of 789 respondents from ten randomly selected districts in KP. A set of cultural factors is identified affecting earnings. The factors that contributed positively and significantly are education, work experience, annual family income and restrictions of permission for doing job. Earnings increased with each additional year of schooling and experience after adjusting cultural factors in the model but the increase in annual family income results in the highest increase in earnings as compared to other cultural factors. It is concluded that women who belong to high income family earn more annually as compared to the women of low income family.

The impact of cultural constraint like restrictions of permission for doing job was also assessed in this study. Results concluded that women who do not have to face restrictions for doing job have more annual premium than women who reported that they have to take permission for doing job. The current study found a negative impact of family size and number of working woman own children on the earnings of working woman. It has been reported that married working women earn more than unmarried women. The concave relationship of experience and earnings is also evident in this study like many other accomplished studies on this issue. It is suggested that public policies for promoting investment in education of women along with addressing their cultural issues may be developed.

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