Investigating the Factors Affecting Female Work Participation in Pakistan: A Case Study from Multan Division

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Abstract   *The present study sheds light on the factors affecting female work participation in the Multan division, being part of Southern Punjab, Pakistan. Empowering females economically may uplift the standard of living of their families as well as helps to reduce the poverty rates in the economy. Female labor force participation also contributes to improving the human capital of the less developed countries like Pakistan. Primary data has been collected through a field survey, having a sample size of 350 females during the year 2020. The findings of the study conclude that education attainment, women's age, husband's education, marital status, access to credit are significantly influencing the female work participation in the Multan division. The study suggested that a proper policy framework should be designed by the government to encourage females towards labor force participation. Moreover, the provision of short-term loans would be helpful to participate in different economic activities, like small business enterprises.*

Key Words: Female Work Participation, Education, Multan, Pakistan, Labor Supply

JEL Classification:

Introduction

The dialogue on female labor force participation has been on stage for decades across the world. Women's participation in economic activities plays an influential role in driving economic development and prosperity around the globe. Over the years, female labor force participation in the labor market has been considerably increased both in the developing and developed world. Women's participation in economic activities has shown an increasing trend in the employment rate in many countries. Lawanson (2008) stated that females constitute more or less half of the country's population. Mincer (1962) has examined the association between female labor force participation and working hours overtime.

Economic Survey of Pakistan (2019-20) reported that the population in 2019 has amounted to 211.17 million in Pakistan, and the density is 265 km² in Pakistan. Participation of women in the labor force would positively influence the employment rate but also the growth rate of developing countries like Pakistan. Women

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empowerment is very crucial for the economic growth and wellbeing of a country. Due to the increasing population growth rate, women in the developing world are facing numerous challenging issues relating to cast, classes, regions, religions, uneven socio-economic development, rural/urban division, tribal and feudal system. The present study has been focused on investigating those factors that significantly influence female labor force participation—especially concerning the Multan division, constituting one of the important divisions of Southern Punjab, Pakistan. This region is very famous for its contribution to small-scale businesses, cottage industries like renowned hand embroidery, art and handicraft activities. The paper presents the following organization: section II presents a review of the literature. In section III, methodology has been presented. Section IV sheds light on empirical findings, and section V presents the conclusion and policy implications of the study.

Table 1. Female Labor Force Participation in Pakistan (%)

Years	Female Labor Force Participation (%)	Female Population (%)
2015	21.952	48.532
2016	21.33	48.536
2017	20.72	48.537
2018	20.13	48.538
2019	20.12	48.539

Source: World Bank Database

Literature Review

This section presents the review of past and new researches across the developed and developing nations.

Mahoney (1961) concluded that the age of a married woman is a crucial factor as female labor force participation varies with age. It was also found that family economic background and past labor force participation are the important factors that are positively related to present labor force participation. Women having higher education have greater labor force participation rates as compared to less-educated females.

Nam (1981) investigates the determinants of woman labor force participation in Seoul, South Korea. The author had collected data during two different periods, i.e., 1970 and 1980. The result of the study concludes that the education level of females and the economic states of woman's families are the major factors to influence female labor force participation. It was also found that women belonging to the low financial family background are more likely to be employed as compared to financially stable family background

Smith (1981) investigated the factors influencing female labor force participation in Mexico City. The author had collected data using a multistage, stratified and clustered sampling technique. The sample size consisted of 798 married women during the year 1971. The finding of the study revealed that in the modern sector, wages are higher; therefore, female labor force participation is also higher but has a small family size. In the untraditional sector, wages are lower as compared to the modern sector. Childcare and working can be done simultaneously by the female in the traditional or rural sector.

Kathryn & Pampel (1985) examined the structural determinants of female labor force participation in a developed nation. The research was based on both cross-sectional

and longitudinal data collected from 16 developed nations over five different periods between 1955 to 1975. The finding of the study concluded that economic growth, family roles, fertility, structure or state, class inequality, class competition are important factors to investigate female labor force participation.

Pemple & Tanaka (1986) explored the female's labor supply decision to work and its relation to economic development. The author had collected cross-sectional data of 70 nations during two different periods, i.e., 1965 and 1970. The results of the study concluded that at advanced levels of development, the female labor force participation increases. Variables like female education, economic dependency, family adult sex ratio, region, trade dependency were found to be the important determinants of female labor force participation.

Azid et al. (2001) studied the female labor force participation in rural Multan. The authors had collected primary data from females working in the cottage industry at a local level. The findings of the study conclude that the number of children, education, shows a significant impact on labor force participation.

Lisaniler & Bhatti (2005) study the determinants of female labor force participation northern region of Cyprus. The authors had surveyed during the year 2001. The result of the studies shows that education, age and residential area of the women are the important factors that influence women's decision to participate in the labor force.

Ejaz (2007) collected secondary PSLM data during the year 2004-05 by employing Logit and Probit model techniques for econometric analysis. The results of the study revealed that educational attainment, age and marital status are positive effects on female labor force participation (FLFP).

Faridi et al. (2009) studied the factors influencing female labor force participation in the Bahawalpur district. The authors had collected primary data by conducting a field survey using the logit regression analysis technique. The findings of the study revealed that education plays a significant role in increasing the female labor supply. However, the presence of an infant in a household shows a negative relationship.

Ejaz (2011) explored the crossectional data of rural and urban regions of Pakistan. The female age group was between 15 to 50 years. The author collected secondary data from Pakistan (PSLM) Survey during the year 2006-07, using the Probit regression model. Different characteristics relating to women empowerment, personal and households nature were discussed for econometric analysis. Various independent variables like first child\s gender, the number of home appliances used in a household, type of housing, education, work, age, marital status, income per capita, the household headed by the female are significantly related to the labor supply. The results of the study concluded that married females are less encouraged to be part of the labor force. Females at a young age are more likely to participate in economic activities, but after the age of 42, they are less like to become part of the labor force.

Kiani (2013) collected primary data using the Tobit model. The findings of the study conclude that household expenditures and education show a positive relationship with female labor force participation. Moreover, household income shows a negative relationship with female labor force participation in Pakistan. As females having sound financial backgrounds are less likely to participate in the labor force.

Iweagu et al. (2015) collected cross-sectional data by conducting a field survey of 291 households using the logit regression technique. The study has concluded the results

that training, access to credit, exposure to mass media and education were found to be positive and significantly related to the female labor force participation in Nigeria.

Taşseven et al. (2016) examined the various kind of factors that are influencing female work participation in OECD countries. The authors had discussed many social, cultural and economic characteristics that are associated with female labor force participation. Secondary data was collected from the database of the World Bank during the years 1990 and 2013, using the panel logit technique for econometric analysis. Various independent variables like GDP per capita, employment rate, fertility rate were analyzed and concluded from the results that fertility rate is the most influential factor of female 's work participation. Moreover, it has been found that the fertility rate, unemployment rate and GDP per capita are significantly and positively related to women's work participation.

Gashi et al. (2019) explored the determinants of female labor force participation (FLFP) in Kosovo. The authors had employed multivariate analysis and an eclectic model for the econometric analysis. The findings of the study revealed that age, marital status, education, labor market demand and the composition of the household are significant determinants of female labor force participation.

Data and Methodology

The primary data was collected through questionnaires based on field surveys, both in rural and urban areas of the Multan division. Multan division consists of four districts comprising of Multan, Khanewal, Lodhran and Vehari district. The questionnaire was designed to provide information regarding socio-economic and demographic questions relating to female labor force participation. The sample size consists of 350 females having age between 15-49 years, using proportionate and random sampling techniques.

Variables Employed in the Study

Female Labor Force Participation

Female labor force participation (FLFP) is a dependent variable. It is a dummy variable consisting of 0 and 1 values. If the respondent is participating in the labor force, it can be denoted by 1. If the woman is not participating in the labor force, it can be denoted as 0 value.

Women' Education

It is expected that the educational attainment of the female shows a positive relationship with the labor force participation as education is one of the influential factors that significantly helps to empower females, both economically and socially.

Women's Age

it is expected that the variable women s age shows a positive relationship with labor force participation. It has been observed that females at a young age are more encouraged towards the labor supply. Later with expertise and skill, they are more encouraged to participate in economic activities. However, females, after getting older age are not much encouraged to participate in the labor force.

Husband's Education Level

It is expected that if husband's year of school is positively related to female labor force participation. Educated husband always encourages their spouse to participate in the labor force. Educated husband encourages and supports their spouse to gain more education.

Household Size

It is expected that household size is negatively related to female labor force participation. Large household sizes exhibit more responsibilities on the female member of the family; thus it would be difficult for them to spare time for economic activities.

Women Marital Status

Married women are more encouraged to be part of the labor force, thus expecting a positive relationship with labor force participation.

Number of Children

A greater number of children in the household discourage mothers to work in economic activities.

Access to Credit

It is expected that access to credit shows a positive relationship with female labor force participation. It would help them to run their own business at a small level. This would support them for their future earnings.

Husband or Father's Salary

It is expected that females having another source of income, either from the husband or father, is less encouraged towards economic activities; this is maybe due to the reason that stable financial family background shows a negative relationship with female labor force participation.

Physical Assets

It is expected that ownership of physical assets shows a negative relationship with FLFP.

Table 2. Description of Variables

Dependent Variable	Description of the Variables
Female Labor Force Participation (FLFP)	If female participates in economic activities =1 If female does not participate in economic activities=0
Independent Variables	
Women education (WEDU)	Total years of schooling of the respondent
Woman's Age (WAGE)	Age of the respondent in years
Husband's Education Level (HEDU)	Total years of schooling
Household Size (HS)	The total person in a household

Woman's marital status (WMS)	If married=1 If unmarried=0
Children under 5 years of age (CHILD)	If yes= 1 ; If no= 0
Accesses to credit (ACRE)	If yes= 1 ; If no= 0
Husband/Father's salary (SALARY)	If yes= 1 ; If no= 0
Female-Headed Household (FHH)	If female Headed Household =1 If female does not head household=0
Location (LOC)	= 1 if a residential area is rural = 0 if a residential area is urban
Physical Assets owned (PHY)	If yes= 1 ; If no= 0

Model Specification (Female Labor Force Participation)

FLFP=[C+WEDU+WAGE+HEDU+HS+WMS+CHILD+ACRE+SALARY+FHH+LOC+PHY]

Analytical Framework

In the present study, the simplest techniques for analyzing the determinants of female labor force participation are econometric methods, i.e., Binomial Logit regression.
It starts with a general function,

$Y_i = f(X_1, X_2 \ldots\ldots X_n)$ (I)

Where "Y_i" indicates female labor force participation. Where Y is equal to "1" if female participating in economic activity and equal to "0" as if female participating in economic activity... X_1, X_2………. X_n represents different socio-economic and demographic variables.

Thus, the logistic equation [(Maddala (2001), Gujrati (1995) and Berndt (1991)] can be written as

$$F\left(-\sum X_i^{/}\beta\right)=\frac{e^{-\sum X_i^{/}\beta}}{1+e^{-\sum X_i^{/}\beta}}=\frac{1}{1+e^{\sum X_i^{/}\beta}}$$

Table 3. Descriptive Statistics of the Factors Affecting Labor Force Participation in Multan Division

Variables	Mean	Standard Deviation
FLFP	0.45	0.21
Women education (WEDU)	8.25	5.56
Woman's Age (WAGE)	24.5	10.6
Husband's Education Level (HEDU)	10.08	6.08
Household Size (HS)	6.38	2.59
Woman's marital status (WMS)	0.57	0.50
Children under 5 years of age (CHILD)	0.36	0.15
Accesses to credit (ACRE)	0.15	0.28
Husband/Father's salaried (SALARY)	0.67	0.23

Female-Headed Household (FHH)	0.12	0.60
Location (LOC)	0.39	0.15
Physical Assets owned (PHY)	0.07	0.02

Source: Survey data, 2020

Table 4. Binomial Regression Results of the Factors Affecting Labor Force Participation in Multan Division

Variable	Coefficients	Standard Errors	Z-Statistic	P-value	Marginal Effects
Constant	2.463	1.489	1.654	0.098	---
WEDU	0.193	0.068	2.858	0.004	0.048
WAGE	0.581	0.284	2.047	0.041	0.134
HEDU	0.394	0.097	4.059	0.000	0.091
HS	-0.030	0.014	-2.138	0.033	-0.007
WMS	0.316	0.102	3.086	0.002	0.075
CHILD	-3.467	-1.306	-2.655	0.008	-0.826
ACRE	0.370	0.056	6.566	0.000	0.086
SALARY	-0.775	0.104	-7.423	0.000	-0.184
FHH	0.115	0.580	0.198	0.843	0.027
LOC	0.511	0.438	1.166	0.244	0.122
PHY	-0.409	0.095	-4.286	0.000	-0.097
McFadden R-squared	0.586	Mean dependent var			0.348
LR statistic	285.2	Prob. (LR statistic)			0.000

Source: Survey data, 2020;

Results and Interpretation

Table 3 presents the descriptive statistics of potential variables that are included in the econometric model of female labor force participation in the Multan division. Table 4 presents the econometric results of the Logit regression of the factors affecting labor force participation in the Multan division, Pakistan. The data has been collected through a field survey using stratified and random sampling techniques. The sample size consists of 350 females of age group between 15 to 49, from both urban and rural areas, employing logit regression technique. The dependent variable is female labor force participation. It is a dummy variable having values 1 or 0. The marginal effects reflect the probability derivatives at the sample mean.

Education plays a vital role in increasing the per capita income of households. Females having higher education have more chance to get better prospects and earnings [Nam (1981), Pemple & Tanaka (1986)]. The econometric results of the marginal effects show that the variable women's education is positively related to female labor force participation. An increase in one year of schooling by the respondent will increase the labor force participation by 0.048[Lisaniler & Bhatti (2005), Chamlou et al., (2011) and Iweagu et al. (2015)]. In the present study, the results of the econometric analysis present that the coefficient of age of the respondent is positively related to the female labor force participation and significant statistically. An increase in respondents' age by one year will have a greater likelihood to participate in the labor force by 0.134 units. This is due to the reason that with time, women gain expertise and enhance their skills according to the nature of the job (Becker,1964). Therefore, they are more encouraged to

find more and better opportunities with time (Kiani, 2013, Faridi et al., (2009). Another important variable is the education of the respondent's husband. The marginal effect of the variable husband's education shows that if the education of the respondent's husband increases by one year, the likelihood of the wife's decision to participate in the labor force increase by 0.091 units. The results of the marginal effects of the variable household size depict a negative relation with the female labor force participation, statistically significant. Large household sizes exhibit more responsibilities on the mother; therefore, it would be difficult to participate in the labor force. Access to credit shows a positive and significant relationship with female labor force participation (Dessie, 2014). The econometric results depict that access to credit results in greater female labor force participation, and it is statistically significant. One unit increase in access to credit to females, the more likely to participate in the labor force by 0.086 percent. Access to credit supports the women to participate in economic activities or in attaining education. This will further help them to raise their future earnings by engaging themselves in self-owned small-scale businesses or cottage industries. The variable of the marital status of women is an important factor that influences female labor force participation. Theoretically, It has been accepted that married women are more encouraged to be a part of the female labor force. The results of the women's marital status show that if the female is married, it is more likely to participate in the labor force by 0.075 percentage points. Another important variable is the presence of children or infants in the household. Households having a large number of children incur more responsibilities on the mother. Female being parents have the responsibility of rearing their children. Therefore, it would be difficult for them to manage time and delegate their responsibilities as a parent to someone else. The variable child shows a negative relationship with female labor force participation, though statistically significant. If there is a presence of a child in n family, the probability of participating in the labor force will reduce by 0.826 percentage points. The next variable is the salary; if there is another source of income in the household by the husband or father, it would be lesser chances for the female to participate in the labor force. Women having stable financial family backgrounds are less encouraged to be a part of the labor force. The results of the marginal effects depict that the presence of husbands' or fathers' income will reduce the probability to participate in the economic activities by -0.184 percentage points. Ownership of physical assets shows the financial condition of the household. It also reflects their financial security towards unforeseen contingencies and emergencies. The marginal effect of the presence of physical assets shows that the presence of physical assets by a female lead to a decrease in the probability of labor supply by -0.097 percentage points   Coefficient of location and household headed by a female is found to be statistically insignificant and no effect with female labor force participation has been found in the Multan division.

Conclusions and Recommendations

The presents study has attempted to investigate the factors affecting labor force participation in the Multan division. The respondents are female around the age cohort of 15-49, belonging to rural and urban areas in the Multan division. The study concluded that women's education, women's age, husband's education, women's marital status, access to credit show a positive relationship with female labor force participation. However, household size, number of children in the household, Husband's salary and presence of physical assets in the household shows a negative relationship with the

female labor force participation. It has been observed that females at a younger age are participating more in the labor force, and their participation in the labor force is reduced with the older age. Women, if married, are more likely to participate in the labor force. Husband s salary income and presence of physical assets in the households reflect the financial position of the family. Greater the stable financial or economic background of the family, lesser will be the participation by the female in the labor force. The study suggested that government should design policies to facilitate education programs for women. This will result in women's empowerment and develop human capital for the country. Different training institutes and skill development programs should be developed to enhance the productivity of the female labor force in Pakistan.

Table 5. Population data for Urban and Rural Areas (thousand)

	total			urban			rural			density
	both sex	male	female	both sex	male	female	both sex	male	female	km2
				2017 census						
Pakistan	207774	106449	101314	75584	39149	36425	132189	67300	64886	-
Islamabad	2006	1055	951	1014	540	475	992	516	475	-
Punajb	110012	56958	54046	40387	20760	19621	69625	35197	34425	-
Sindh	47886	24927	22956	24910	13008	11900	22975	11919	11056	-
KP	30523	15467	15054	5730	2972	2757	24793	12495	12298	-
Balochistan	12344	6483	5860	3401	1794	1607	8944	4690	4253	-
Fata	5001	2556	2445	142	74	67	4860	2481	2378	-

Source: Economic Survey of Pakistan 2019-20

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