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Socioeconomic Determinants of Wage Differential at Workplace: A Case Study of Pakistan

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This study examines three socioeconomic determinants of wage differentials at work among males and females, males only and females only. Secondary data from the Pakistan Living Standards Measurement Survey (PSLM) 2018-19 and binary logistic regression techniques were used to assess the wage differential in Pakistan's workplace. Female respondents are more likely to suffer from low wages at work than male respondents. As a result, the wage differential exists according to gender. High-educated respondents are less likely to fall into lower salaries than those with primary education. Based on the study results, a wage differential at work is more likely to occur for unmarried respondents than for married respondents. There is a wage differential between respondents in managerial-related occupations and those in other fields. Even though all determinants of wage differential have their impact, personal attributes like education play a significant role in determining wage differentials at the workplace. Men who are married earn lower wages at work than unmarried men, according to the results. Wage differentials are affected by marital status. The wage differential persists as male education increases, with higher-educated men earning lower wages. Men who do not work in managerial occupations are more likely to face wage differentials than managers. It is less likely that rural males will face wage differentials. In addition, male respondents in Punjab are less likely to fall into lower income levels at work than respondents in other regions. This suggests that wage differentials are affected by various factors, including region, marital status, and education. However, more research is needed to understand the exact causes of wage differentials between men and women. It is also essential to recognize that wage differentials are not always based on gender alone. Other factors like race or ethnicity may also affect wage disparities.

I. Introduction

Wage differential has various dimensions and can be analyzed through different aspects, such as gender, occupation, skills, education, and region. Adam Smith suggested that differences in work will primarily determine wage differential. Smith's theory states that wages will be adjusted so that the labor market for that particular occupation will be in equilibrium. Becker says that as people invest in "human capital" through education and increase their skills, they will be more valuable. Wage differential is the human capital theory (Becker, 2009). Wage differential persists in various occupations and industries and lies in different economic domains and schemes. A significant wage differential occurs among high-paid workers and low-paid workers. Such as 9.4 percent in the professional and technical groups and 9.3 percent in the clerical services groups (Riaz & Faridi, 2023). The wage differential is also the subject of the region. Urban areas have more employment opportunities and better educational facilities, and people are more inclined to go to cities and big urban poles. Urban worker's productivity level is higher. There are reasons to expect the differential highest for more educated workers. There is hardly any control on the rural-urban migration; people can move to the central pole for employment from rural areas. Similarly, the work environment and living conditions vary from region to region. The urban labor market in China has grown vastly in the past three decades due to economic development and rural-to-urban migration flows, which led to an increased wage differential and disparity (Su & Heshmati, 2011).

Theoretically, the wage differential is due to the differences in individual endowments categorized by personal, family, and occupational attributes. Mostly, the highly educated workers with more work experience earn high wages. Family attributes create wage differentials in the workplace (Aderemi & Alley, 2019; Ahmad et al.,2023). Marital status, specifically among female workers, causes hindrances in employment and wage differential at the workplace. Married women are refused to hire, while married women and working mothers are confronted with money issues. It reveals that they have less time to do their hobbies, socialize, and engage in leisure activities to relax (Karim et al.,2021)). They also felt that their relationships with their partner and their families were already at the expense of missing their input. The most challenging task for married women is integrating their multiform obligations of career, household, spouse, and children. The consequence of women's feelings of incompatibility to deal with these demands is a high level of occupational inequality, as proved by the present study's findings. The main reason behind the differential has been the need for equal access, mostly to higher occupations and other jobs. Women are still segregated at the bottom of the organizational hierarchy (Naseem et al., 2023).

Gender differential is a fact that is created by nature, and globally that leads to the dual role of gender, which creates differences that are apparent in several areas of daily life. The social role of gender is explained as a relationship between people's behavior, people's apprehensions, and predictions. That is how girls and boys or men and women should react; gender differences are identified through people's activities. Usually, girls play with dolls, and boys play with footballs

and mechanical tools (Mani et al., 2023; Thompson, 2014). Gender differential may sluggish down the social and economic growth of the country (Irfan et al., 2013). In practically all societies and all domains of activity, females are exposed to inequalities. Subsequently, females usually have lower levels of professional opportunities and educational and vocational training skills than men. In different terms like occupational choices, administrative decisions, health and educational facilities, legislation, media contract building, and communication, females are mostly counted as weaker and helpless. There are two types of differentials: fair and unfair differentials. The fair differential is usually based on skill capabilities and individual differences; however, the unfair differential is described as discrimination between individuals based on sex, color, caste, . Discrimination is perceived as an aberration that can be eliminated with the extension of equal rights to all (Karim et al., 2021).

Before the 1950s, females were not very educated, so they were not employed. Therefore, there was no gender differential in the workplace, but today, females are present in almost all fields. So, the question of gender differential arises at every corner of the organization. Females these days choose to get educated, pursue careers, and pursue profitable business opportunities. Women in Pakistan face many problems where women are restricted to the house due to the tradition of veiling societal and cultural biasedness. This limits women's access to schooling, employment, training options, and social services.

Furthermore, working women facing the problems of independent survival and need a male to look after them. Women have been pragmatically accepting submerged societal bias within the outdoor workplace. Hence, most of them have to manage double personalities. The first look is a title character of the female, for example, as an employee, and the second look is a domestic character, for example, as a mother/wife. This would lead to the move from primarily female-dominated occupations (teachers and nurses) to male-governed occupations such as managers and engineers (Michailidis et al., 2012). No doubt, socioeconomic progress has been determined through the well-organized and well-status females. Half of the human resources are from females. This is significant, and we cannot ignore women's role. Hence, women have to face the brunt of daily issues of suffering at the workplace, especially in developing countries. Also, traditional customs and barriers create hurdles (Ahmad et al., 2022; Chaudhry, 2007).

More or less, there is no doubt that today, the more significant part of females' contribution to the development and growth of economic actions is contemplated as the spine of the economy. The degree of poverty is classified by unemployment, gender differential in the labor market, and inadequate entry to economic prospects. Also, the extent of poverty is higher among females than men. (Khan and Khan, 2009). In a developing country like Pakistan, many traditional norms create hurdles and usually make it challenging to participate in the workplace and outside the home (Sultana et al., 1994). Thus, more of the female population does not contribute to the development process. Pakistan is also one of the world's most crowded and populated countries, and women are

about half of the total population. Working women face domestic and workplace problems (Shah et al., 2023; Avais et al., 2014). Middle-class women work in private or public organizations to fulfill their basic desires and support the family's daily life. Their salaries are mainly utilized to maintain family uplift and other domestic issues. By their very nature, women are gifted with parenting skills that are limited to their children. Given the feasible alternatives, women may prefer the "mommy track" because of family responsibilities (Ahmad et al.,2022).

Motherhood myths work for a justification function concerning gender differential against females in the workplace (Verniers & Vala, 2018). An accomplished, professionally competent, expert and analytically sound workforce is the country's capital and is necessary for the development and growth of the economy. Unluckily, in Pakistan, there is a significant shortage of human capital. Respondent's earnings are settled as their output production functions, whereas education and experience are settled as the factors of production (Khalid et al., 2020). Cultural standards make women inferior to men, like to consume less on women's daily needs. Women and men should contribute equally to social, cultural, and economic life through gender equality because it is an essential objective for the survival and progress of democratic countries. Even though improvements have been made, gender equality is still not attained, as men and women are not treated equally in the workplace. The modern workplace is a central ground for shaping societal gender inequalities (Kalev & Deutsch, 2018). Wage inequality has upgraded in new eras but did not vanish. Qualification and work experience differential among males and females have been narrowed down. However, the gender wage differential still exists and has become the main root of gender discrimination in the workplace. This study will first define the current literature and then specify the occurrence of gender differential in the workplace. This study aims to estimate the socioeconomic determinants of wage differential at the workplace in Pakistan, and the socioeconomic determinants are categorized as personal, family, and occupational attributes. The determinants of wage differentials are derived from the latest national dataset, Pakistan Living Standards Measurement (PSLM) Survey 2018-19.

Wage differential in the workplace is challenging all over the world. Pakistan, being a developing country, is also subject to wage differential. Supply-demand models, vote-maximization, human capital, segmented labor markets, rents, and bargaining models are the central differential in employment opportunities (Aderemi & Alley 2019). Female labor force role is 22 percent, and male labor force involvement is 81 percent (ILO, 2020). Global Wage Report 2018-19 explained that gender wage inequality is a central issue in all countries; on average, women earn 20% less than men internationally. Wage differential has various dimensions, from individual endowments to sect-oral and regional perspectives. Mostly, the highly educated workers with more work experience earn high wages. Family attributes create wage differential in the workplace (Pan, 2015). Urban wages are more attractive for rural workers. Gender differential in the workplace creates an income gap and affects the performance of female employees (Khalid & Aroosh, 2014). Gender inequality in the workplace creates gender segregation in occupations.

2. Literature Review

Wage differential restricts women from accessing economic and social opportunities, political and lawful status, personal freedom, and family responsibilities. At the same time, gender is a societal map to classify a person as male or female. Gender differential is a socially raised gap between men and women (Riaz & Faridi. 2023). Gender Inequality is a worldwide phenomenon. Knowledge of gender differential relations is necessary, mainly in the workplace, where it may influence employment relationships, opportunities, and career progression (Hipolito, 2020). The gender and socioeconomic indicators are used as a policy priority for accomplishing the EFA (Education for All) program (Sen & Mukherjee, 2014). The results will be helpful for scholars meditating on gender issues and legislators and experts interested in understanding a more gender-equal society. Gardeazabal and Ugidos (2005) examined wage differentials based on human capital theory.

Casarico and Profeta (2015) investigated and proposed the measure of determinants of the gender gap in the workplace—their study schemes to explore the gender differential in risk perspectives extents. Females are pretty suitable in high-paying jobs or highly competitive environments. They can help to overcome socially created variances in well-designed institutions. Their study aimed to expand the idea of price ceilings in high-paying jobs or highly competitive environments. Wage differential occurs when related workers are paid different wages at the workplace. In order to measure wage segregation from different perspectives, the proposed mean wage differential splits into two portions: the first part explains differences in characteristics, and the second part explains differences in returns to these characteristics. Data was collected through a Spanish sample survey in October 1995 from the European Union. Extended Oaxaca's scalar measure was used to check wage distribution with the help of quintile. Gender wage differences, explicitly earnings, are affected by the gender structure of administrative and managerial staff (Hultin & Suzulkin, 1999). Results illustrate that women have access to administrative staff in relatively up to low-wage earners. Reskin et al. (1999) and Hirsh and Konrich (2008) examined the elements and outcomes of the race and sex structure of organizations. It also explained that sex diversification prevailed in primarily socioeconomic and cultural societies in different ways. Smith (2002) examined race and gender bias authority restriction in the workplace. Results of the study state that women faced several problems at the workplace, such as job access, lower income returns, and exclusion from authoritative jobs. Yasin et al. (2012) used the Pakistan labor force survey data and applied cross-sectional analysis. The results demonstrate that women are equally efficient without inequality and discrimination under certain circumstances.

Furthermore, Adamchik and Bedi (2000) examined pay distinctions between public and private sector employees. Results suggest that for the public sector, wage differentials will make it challenging to attract and keep skilled employees. These perceptions and opinions have caused adverse effects on organizations and employees, but education can minimize these inequalities. Schneider et al. (1997) checked the connection between job-associated and psychological

consequences of sexual harassment in the workplace. Results propose that comparatively low-level but recurrent sexual harassment can have significant negative aspects for working women. Pakistani society is a subjective place where gender biasedness exists, like in other countries. For example, females also face unequal access to different opportunities in gaining health, nutrition, and education and also suffer male command over assets. Bias hinders females from reaching potential levels and efficiency. It is essential to establish a suitable environment for education, health, and attaining skills to explore the role of females in society. Khan (2016) fined the female's human assets and their impact on the economic growth of Pakistan.

Johanson's Cointegration Approach and Vector Error correction model have been applied using time series data from 1972 to 2012. Research showed that the long-run relationship is positive and significant, while the short-run effects on economic growth are positive but statistically insignificant. Ashraf and Ashraf (1993) found a male-female wage differential. They concluded that the proportion of this wage differential was the main reason for the differential in productivity among males and females' characteristics. Results revealed the presence of high levels of pay differential against women. Ashraf and Ashraf (1996) calculated the gender earnings differential for the entire country by household and income expenditure surveys (HIES) for 1979 and 1985-60 data. Pervaiz et al. (2011) examined the relationship between the earning gap and Pakistan's economic progress.

Gender differentials in employment and wages are also argued to affect economic growth through different channels. For example, gender breach (break) in employment can decrease the average work aptitude. This decrease in the female workforce inhibits economic growth. Likewise, the gender wage differential has influenced economic growth and the degree to which it developed the country. Also, time series data was applied from 1972 to 2009. The study's results investigated that labor force, growth, investment, and trade candor (openness) have a statistically positive impact, and gender inequality has a statistically significant and negative impact on Pakistan's economic growth. Education has a crucial role and impact on Pakistan's economic growth and human capital. Awan and Hussain (2007) used household analysis in Pakistan by checking total wages in Pakistan and their profits to education and also checked gender discrimination. Results revealed that income gaps between educated and uneducated workers in first-time employment also tend to increase with experience.

In addition, Sabir and Aftab (2007) observed that gender wage differential evolvement over the period covering 1996-97 to 2005-06 for the wage employed in Pakistan. The primary motive of their study is to express the impact of modern economic development in the context of the wage differential. The increase in the gender wage differential during these two years is more prominent at the bottom rather than at the top end of wages. Channar et al. (2011) also examined sex disparity in the workforce and its impact on employees' satisfaction and motivation, commitment, enthusiasm, and stress levels. An indirect and closed-ended questionnaire was administered to 526 male and female employees of lower, middle, and higher categories of public and private health and education departments of Hyderabad and Jamshoro districts. The results demonstrated that

due to gender differential, the stress level of work at the workplace increases while decreasing satisfaction from that work in the form of wages, motivation to do more work com,mitment with legal companies, and enthusiasm level to boost their skills also decreases. The study results showed that females were discouraged more than males in private organizations rather than public sectors. Rafiq and Shah (2012), to check out the validity of the compensating wage differentials in Pakistan, used the value of statistical life and injury for the country. Their study focused on the blue-collar industrial workers in Lahore to evaluate the compensating wage differential among males and females. The survey was conducted in all parts of Lahore from May 2009 to October of the same year. The F- statistics confirm the high explanatory power and the model's overall significance. The results have been applied for computing the Value of Statistical Injury (VSI), which is 25.16 million and one hundred and eleven thousand Pakistani rupees, respectively.

Bui and Permpoonwiwat (2015) examined wage differential among Thailand workers using the Blinder Oaxaca decomposition technique. The wage differential is divided into two groups: the first group consists of an unexplained (unsolved) portion of wages, and the second group consists of an explained (solved) portion due to variances in their endowments (financing). In Thailand, the wage differential has lessened over the last decades from 14 percent in 1996 to 10 percent in 2006 and then 1 percent in 2013. However, the mysterious share of gender wage differential supporting men increased sharply in 2013 after a small drop in 2006. Women, on average, have made greater advancements in education and skills in these years. However, growth in wages was lessened by sexism. Results expose that in different industries of females leading sectors, wage inequality was growing. Ali and Ahmad (2013) contemplated that foreign aid helped capital-lacking economies fulfill the necessary and urgent needs of finances and boost the country's growth. Also, it increases the level of finances to raise growth, increases employment and earnings, and helps reduce poverty in the recipient economies. They checked foreign aid's impact on wage differential in Pakistan. They used time series data and ADF Augmented Dicky Fuller and Phillip-Person unit root test. To determine whether each time series is stationary at its first difference, the Johansen cointegration test and vector error correction models are used to check growth effects. The results are statistically significant, and foreign aid, investment, and labor force participation rates impact inequality. Hyder (2002) explored wage disparities between Pakistan's public and private sectors. The wage equations are estimated to discover the financial rewards of human capital endowments across the two sectors. This study uses cross-section data from the Nationwide Labor Force Survey (LFS) 1996-97. In order to eliminate the selectivity unfairness, we use Heckman's two-stage procedure. The results showed that holding all other variables constant, wages increased in the private sector when workers reached 46 years of age. The study discovered that large public-private wage disparities exist in Pakistan.

Trentham and Larwood (1998) examined gender discrimination in the workplace throughout the world; women still suffer from differential and exploitation in the workplace. In practically all societies and all domains of activity, such as women, are put to disparities. For example, premature marriage, dowry, domestic cruelty and violence, femicide, female feticide,

rejection of education, unfairness in food, clothing, and accommodations, less respect in family and society, no administrative power, and mostly preference for sons towards women. Shafi (2019) also observed discrimination among women, and women raised their voices regarding differential. Schmid (2016) observed the gender wage differential in Switzerland using data from Swiss households. The results exposed that women still earn less than men with the same bequest (endowments). One of the main reasons for this differential is occupational exclusion; the other one is women and men working in exposed female professions. Syed et al. (2013) proposed a brief theoretical background on equal opportunity by explaining a multi-level approach. Data were collected from 30 women working in the above-discussed sectors through interviews. The study highlights cultural and organizational challenges faced by working women in Pakistan. Sarwar and Abbasi (2013) determined that Pakistani women face serious employment issues regarding wages. Theorists have argued that women's employment positively affects countries' economies and well-being. They conduct labor force data from the WBP (World Bank and Pakistan) Bureau of Statistics that shows the contribution of working women in Pakistan as a percentage of total women employed and a proportion of the total workforce. This contribution of working women is far below international standards and developed countries. Wage differentials in the workplace in socioeconomic, political, and cultural elements badly affect the status of females in job positions, which limits employment opportunities and options for females in the present and future situations. It is advised that a holistic change approach should be useful and must start in the country, and it would also have helped the media and masses.

Cukrowska and Magda (2020) examined firm-level factors of gender wage differential by linking the relationship between a firm's age and the size of its wage disparity using European formation of earnings for eight European countries. Results of the study indicate that the gender pay differential is lowest in the newest firms in eight European countries. It also showed that in central European countries, the degree of the gender wage differential rises with the period of the company. In contrast, the members of states identify that such links could be more precise. The level of gender wage differential appears to be highest in companies that were previously state-owned but, in other contexts, were honored during the transformation. Ma (2016) investigated the factors of the wage differential between migrants and local inhabitants in China. The survey used Chinese Household Income Project (CHIP) data from 2002-2003.

The study came up with an investigation founded on the Oaxaca-Blinder decomposition model. The results specify individual features, regional dissimilarities, industry differences, and public-private segmentation factors causing the wage differential. Tandrayen and Pydayya (2016) examined the extent of the gender wage differential in Mauritius's public and private sectors across sectors. They also used the Oaxaca and Blinder technique to decompose gender wage differential. Data was collected from the Continuous Multi-Purpose Household Budget Survey (MPHS) from 2006 to 2013. The study used a cross-sectional data sample size of 12,000 households per year. According to the study, gender disparities exist in both economic sectors; however, inequalities are more prevalent in the private sector.

These fundamentals create a dynamic path that describes a positive feedback loop that raises the rate of technological innovation. This study's analysis framework is suitable for examining the unexplored territory of the international spillovers of wage differential. Lankisch et al. (2019) measured that the central object of the study is to devote higher education to the mechanical department. Doing so would yield a larger share of highly expert workers in the economy who are not experts in mechanization as low-skilled workers. Such a policy could have a diminishing effect on increasing wage inequality. Results show an interesting case in the long run, where a stable growth path is achieved, and the economy rises at a persistent rate despite the absence of technological evolution. The academic suggestions are in line with the data for the United States since the 1970s. Sattar et al. (2013) expressed that women are facing gender differential in job opportunities, and consistent prejudice factors hurt their work. Data was collected from 200 female bank and mobile franchise employees in Multan City (Pakistan). Binary logistic regression was used through appropriate sampling techniques, such as the Chi-Square test. Results reveal that unequal opportunities and institutional obstacles become the top barriers to female career advancement. Even capable females (who can get managerial seals) cannot gain access due to various stereotypes of job directions committed to the female's job direction. Fatima (2012) has explored the factors causing inequality among males and females in the workplace of university teaching faculty. The study has collected data from a questionnaire of a total of 146 instructors from both private and public sector universities. In the study, statistical research revealed that male and female teachers' job resources, partnership in doing work, and support from colleagues at the workplace positively affect work-life stability. In contrast, detrimental criticism at the job is negatively associated with work-life balance. An Independent sample t-test is used to evaluate the work-life stability of male and female university teachers.

Biltagy (2014) investigated the hindering factors in earning differential among males and females in Egypt. This study used the Oaxaca decomposition technique and the Egypt Labor Market Panel (ECMPA) Survey data from 2006 and 2012—differences in earnings among males and females in Egypt to check the hindering factors that cause these dissimilarities. The findings of this research are beneficial and reveal that differences in earnings between males and females are based on differences in features such as education, experience, and discrimination against women; the other is selectivity bias. It is assessed that the wage differential between males and females is 25 percent in 2006 and 21 percent in 2012, respectively. Nasir and Bashir (2012) have pointed out that lesser job satisfaction, comfort from job, administrative injustice or inequality, workplace environment, and employee awareness are the core roots for the abnormal workplace behaviors and attitudes in Pakistan's government sector that create employee problems. However, the most crucial elements are administrative unfairness and job dissatisfaction, creating unusual behaviors. Shaukat and Pell (2016) investigated gender inequality among higher-educated faculty in Pakistan. Studies have checked the fundamentals of female inequality through a questionnaire survey of 180 faculty staff. They observed that important dynamics caused inequalities, such as decision-making in professional expansion, utilization of resources, educational affairs, and job

happiness. Data were collected through random sampling techniques from ten Lahore public and private universities. Results indicate that males have more command in various sectors but only in verdict construction (decision-making). Cluster analysis differentiates between the majorities of equality who react differentially in terms of the socio-cultural standards of traditionalists and between old-fashioned societies.

3. Methodology

Gender differential at the workplace demonstrates itself in multiple forms: gender differential in employment, gender differential in wages, sexual harassment and care work, . According to UNDP, in 2009, the wage differential was highest among males and females in Pakistan.

Ahmad et al. (2022) have emphasized in their studies on developing economies of South Asian Countries that the mainstream of the collaborators is not alert about the wage differential issues and, at the same time, are not alarmed about it.

This study has applied Binary Logistic Regression (BLR) for empirical analysis, and a dummy variable approach is used to analyze the role of socioeconomic determinants on wage differential in the workplace (Gujrati, 2009; Mincer, 1974; Sabir & Aftab, 2007). MLR (Multinomial logistic regression) (MLR) is more appropriate when there are more than two reaction variables. In their study, Asif and Pervaiz (2019) used binary logistic regression, which is an appropriate regression analysis approach when the dependent variable is binary. It establishes a link among one dichotomous dependent variable with one or more nominal, ordinal, interval, or ratio-level independent variables.

In this analysis, the variable for wage differential at the workplace has been constructed using data from PSLM (Pakistan Standards Living Measurement Survey) 2018-19. The PSLM dataset is based on a sample of 24809 household respondents. However, this study contains 19,016 males and females from rural and urban regions of all provinces in Pakistan—wage differential data collected among males and females at workplaces from urban and rural regions, respectively. The study includes 9536 rural and 9477 urban respondents. This study has investigated the impact of socioeconomic determinants (personal attributes, family attributes, and occupational attributes) on low and high-income groups in the workplace.

The functional form of the model is given below:

WDF = f (GEN, AGE, ASQU, MAS, EDU, OCC, PRO, REG)

WDF: In this study, the dependent variable is used as a categorical variable. In binary logistic regression, the dependent variable consists of two possible outcomes. Workplace wage differential is used as a dichotomous variable with two categories of monthly income: low and high. According to the minimum wage notification in Pakistan 2018-19, we have adjusted below Rs.16000.00 as low income and above and equal to Rs. 16000.00 as higher wage groups. The respondents earning above than and equal to Rs.16000.00 are coded as one, and below Rs.16000.00 are coded as 0. Personal Attributes: In personal attributes, the following variables are

added. These attributes are relevant to both genders (males and females). GEN: Gender equals one if the individual is male, 0 otherwise (in case of joint analysis of males and females). AGE: Age in completed years ASQU: age Square in completed years (adding the age squared to age permits the model to check the effect of differing ages, rather than presuming the effect is linear for all ages). EDU: The education variable is divided into three categories:ary, secondary, and higher educational groups. Primary education includes primary passing. Secondary education includes those respondents who have passed 6th to 12th class education. The higher education category includes respondents who have attained graduation and post-graduation, like BS, MSc—Medical, Engineering, and Law. The higher educational group is used as a reference category. PRO: The Province includes four provincial groups of Pakistan: Punjab, Sindh, Khyber Pakhtunkhwa, and Baluchistan. The Province of Punjab is used as a reference category. REG: Region equals one if the place of resident is an urban area, 0 otherwise. Family Attributes: MAS: Marital Status is a family attribute that shows whether the respondent is married or single. Several authors have used it (Adamchik & Bedi, 2000; Asif & Pervaiz, 2019) to determine the wage differential between males and females. Marital Status was also used as a dummy variable if married =1, unmarried =0

Occupational Attributes:The study has categorized different occupations in occupational attributes. Which consists of nine different occupations such as:

MAN: Manager is considered to be a reference category. Other occupations include:

PRO: Professional,

APRO: Associate Professional,

CLER: Clerical Support Workers,

SKILL: Skilled Agricultural, Forestry and Fishery Workers,

SERV: Service and Sales Workers,

CAT: Craft and related trade Workers, OPER: Plant and Machine Operators, and Assemblers,

EMR: Elementary Professionals.

In this study, the dependent variable is used as a categorical variable. In binary logistic regression, the dependent variable consists of two possible outcomes. In this case, binary logistic regression is a proper statistical technique (Gujarati, 2009). Asif and Pervaiz (2019) used dichotomous variables (categorical dependent) and applied binary logistic regression in their study. In binary regression analysis, the dependent variable, wage differential at the workplace, has been constructed using the monthly income of paid earners of the above-mentioned occupational groups, such as managers, professionals, . The respondents earning above than and equal to 16000 are coded as 1, and all others are coded as 0 because a significant wage differential persists among higher-income groups than lower groups (Vecchio et al., 2013).

4. Results and Discussion

Table No 1: Socioeconomic Characteristics of Respondents

Dependent Variable		**Frequency**	**Percentage**
Monthly Income of Respondents	Less than 16000	841	4.4
	Above than and equal to 16000	18168	95.6
Independent Variable		Frequency	Percentage
Gender of respondent	Male	17042	89.6
	Female	1971	10.4
Marital Status	Unmarried	5448	28.7
	Married	13158	69.2
Education of Respondent	Primary	4851	25.5
	Secondary	11004	57.9
	Higher	3158	16.6
Occupational Attributes of Respondent	Managers	582	3.1
	Professionals	2365	12.4
	Technicians and Associate	1011	5.3
	Clerical Support Worker	741	3.9
	Service and Sales workers	4408	23.2
	Skilled Agricultural, forestry, fishery workers	194	1.0
	Craft and related trades workers	3397	17.9
	Plant and machine operators, and assemblers	2052	10.8
	Elementary occupations	4114	21.6
Place of Residence	Rural	9536	50.2
	Urban	9477	49.8
Region of Residence	Punjab	8891	46.8
	Khyber Pakhtunkhwa	3474	18.3
	Sindh	5098	26.8
	Baluchistan	1550	8.2

This part of the study has a statistical description of the different socioeconomic characteristics of male and female respondents and the empirical finding of the statistical analysis of wage differential due to personal, family, and occupational attributes of the respondents at the workplace in Pakistan. The study has also investigated the socioeconomic determinants of wage differential of male respondents and female respondents at the workplace.

Eighteen thousand one hundred and one male and female respondents were included in this study. Table 1 shows the statistical description of the different socioeconomic characteristics of respondents. The monthly income of the respondents above an equal 16000 is 95.6 percent,

whereas less than 16000 is 4.4 percent—89.6 percent of male respondents and 10.4 percent of female respondents. Marital status shows that 28.7 percent are unmarried, and 69.2 percent of respondents are married. In education, 25.5 percent of respondents are primary passed, 57.9 percent are secondary passed, and 16.6 percent are higher educated respondents.

In occupations, 3.1 percent are managers, 12.4 percent, 5.3 technicians and associates, 3.9 percent are clerical support employees, 23.3 percent are services and workers, 1.0 percent are skilled and agricultural, forestry, and fishery labor, 17.9 percent craft, and related trades staffs, 10.8 percent plant and machine machinists and assemblers and 21.8 percent elementary businesses. In place of residents, 50.2 percent are residents of the rural region, and 49.8 percent are from the urban region. Meanwhile, 46.8 percent are from the Punjab region, 18.3 percent are from Khyber Pakhtunkhwa, 26.8 percent are from Sindh, and 8.2 percent are from the Baluchistan region.

Table 2 comprises empirical findings of socioeconomic determinants of wage differential at the workplace for both males and females. In this study, we have used the respondents' personal, family, and occupational attributes to check the wage differential at the workplace. Personal attributes include the gender, age, age square (experience), and education of the respondents. In family, attributes include marital status and occupation comprised of different occupations, managers, professionals, technicians, craft-related, ., which are discussed below in detail. The results of binary logistics regression show that the respondents' gender is an important determinant in measuring wage differential at the workplace.

Male respondents are used as a reference category. Hence, it has been concluded that females' monthly earnings are less than male respondents. In this study, we have adjusted below 16000 as low income and above than and equal to as higher wage groups. The respondents earning 16000 and above are coded as 1, and below 16000 are coded as 0. Income above than or equal to 16000 is used as a reference category. If there is a one-unit decrease in the gender of female respondents, the odds of monthly wage rise by a factor of .310 compared to males in the workplace in Pakistan. Previous studies support the same results (Aslam & Kingdon, 2009; Irfan et al., 2013). Age is positively related to the monthly wage of the respondents. If age increases by one unit, the odds of the respondents' monthly wage increasing by 1.261. Previous studies (Fields and Wolff, 1995; Irfan et al., 2013) examined age impact is positive on income. In this study, the age square is used as an experienced proxy. Aslam and Kingdon (2009) used age square as an experienced proxy. Age square is negatively related to the monthly wage of the respondents. If the age square declines by one unit, the odds of monthly wage differential at the workplace increase by a factor of .998. Hence, it is concluded from the results that the positive and negative effect of age squared means that as respondents get older, the influence of age is negative.

Educated people are the assets of any country. If people are more educated, they have more job opportunities and promotions. This study used three different education categories to check

wage differentials in the workplace. If education increases, then the monthly wage of the respondents increases.

Table No 2: Socioeconomics Determinants of Wage Differential of Respondents

Dependent Variable		**Reference**		
Monthly Income of Respondents	Less than 16000			
	Above than and equal to 16000			
Independent Variable		**Estimate (B)**	**Sig.**	**Odd Ratios (OR)**
Gender of respondent	Male	Reference		
	Female	-1.170	.000	.310
Age of Respondent		.230	.000	1.261
Age square		-.002	.000	.998
Marital Status	Married	Reference		
	Unmarried	.666	.000	1.947
Education of Respondent	Primary	Reference		
	Secondary	.753	.000	2.123
	Higher	2.239	.000	9.383
Occupational Status of Respondent	Managers	Reference		
	Professionals	-1.305	.000	.271
	Technicians and Associate	-1.372	.000	.254
	Clerical Support Worker	-2.854	.000	.058
	Service and Sales workers	-1.681	.000	1.86
	Skilled Agricultural, forestry, and fishery workers	-2.095	.000	1.23
	Craft and related trades workers	-2.748	.000	.064
	Plant and machine operators, and assemblers	-3.288	.000	.037
	Elementary occupations	-3.738	.000	.024
Place of Residence	Rural	Reference		
	Urban	1.049	.000	2.855
Region of Residence	Punjab	Reference		
	Khyber Pakhtunkhwa	.077	.475	1.080
	Sindh	-.445	.000	.641
	Baluchistan	-.549	.002	.578
Constant	-8.292		.000	.000

Those respondents who have passed primary education are used as reference categories in this study. If respondents have passed secondary education, the odds of their monthly wages are higher by a factor of 2.123 compared to primary passed respondents. Suppose respondents have passed higher education, including MBBS, Engineers, Lawyers, MA, M. Phil, and B.Sc. In that case, the odds of their monthly wages are higher by a factor of 9.383 compared to primary passed respondents. It also supports the previous studies (Nasir, 2000; Hyder & Reilly, 2005; Naheed et

al., 2012). It is also concluded from the logistic regression findings that people who live in urban areas earn more because they have more opportunities compared to those who live in rural areas of Pakistan. Mostly in the rural areas, people have less education and fewer opportunities to work there. The results show that the odds of monthly wages for respondents living in urban areas are higher by a factor of 2.855 compared to respondents living in rural areas. It supports previous studies (Nasir, 2000; Aslam & Kingdon, 2009).

Region of residence is also an important variable in checking wage differentials in the workplace. In this study, the province of Punjab is used as a reference category. The odds of the Khyber Pakhtunkhwa region are higher by a factor of 1.080 and are insignificant compared to those working in Punjab. The odds of respondents from the Sindh region of their monthly wages are less than .641 from those working in the Punjab region. If respondents work in the Baluchistan region, the odds of their monthly wages are less by a factor of .578 compared to the Punjab region. The region of residency is also an important determinant at the workplace and supports previous studies with its positive (Naheed et al., 2012; Nasir, 2000). Occupational attributes are also essential to distinguish the wage differential of the respondents. The present study uses nine occupational categories to check the monthly wage differential in Pakistan's workplaces. This study uses respondents whose occupation is managers as a reference category. Hence, from the study results, it is proven true that respondents other than managers are earning less per month. Respondents whose occupation is professional-related have lower odds of monthly wages by a factor of .271 compared to managers. If respondents are technicians and associates, their odds of monthly wages are less by a factor of .254 as compared to those respondents who are managers. If respondents are related to clerical support worker occupations, their odds of monthly wages are less by a factor of .058 compared to managers. It is the same if we discuss services and sales workers; their odds of monthly wages are less by a factor of 1.86 compared to managers'.

For skilled agriculture, fishery, and forestry laborers, the odds of their monthly wages are less by a factor of 1.23 as compared to the respondents who are managers. Craft and related trade workers' odds of their monthly wages are less by a factor of .064 compared to the managers. Plant machine operators and assemblers' odds of their monthly wages are less by a factor of .037 compared to the managers. Elementary occupation respondents' odds of their monthly wages are less by a factor of .024 than managers'. Their study (Irfan et al., 2013; Nasir, 2000; Aslam & Kingdon, 2009; Hyder & Reilly, 2005) examined various occupational impacts positively on income. In the respondent's family attributes, it is just marital status. As we know, if people are married, they earn less compared to unmarried people because of many other factors. Correlating many growing countries, in Pakistan, housework is considered the first exercise of married women. For example, there exists segregation of time allocation by sex. Men usually work r eartogearnymoneyutside while women have overlying household responsibilities (Khan & Khan, 2009). People have several responsibilities that affect their work and wages, which is why they earn less.

Hence, it is concluded that unmarried respondents' odds of their monthly wages are higher by a factor of 1.947 than married respondents. Nasir (2000) used marital status in their study. Hence, the study found that married people earn less income in the workplace. Socioeconomic attributes are essential to distinguish wage differential between males and females. However, study results proved that personal attributes are the primary and essential determinants in checking wage differential at the workplace.

5. Conclusion

This study empirically investigated the impact of socioeconomic determinants on wage differentials in the workplace in Pakistan. Results reveal that female respondents are less likely to have wage differential at the workplace than male respondents. Results indicate that the age of the respondents is positively related to wage differential and that the age square is negatively related to wage differential, proving that as people get older, the effect of age lessens. Respondents with higher education are more likely to have a wage differential, but there is a persistent increase in wage differential as education increases. Primary-educated respondents are less likely to have wage differential at the workplace than secondary and higher-educated respondents. Just as the place of residence and region of residence are important determinants to check wage differential, respondents from urban areas faced more wage differential in the workplace. Punjab and Khyber Pakhtunkhwa region residence respondents faced more wage differentials than respondents from Sindh and the Baluchistan region. It is recommended that the national and provincial public policies focus on the uplift of the respective regions. Unmarried respondents are more likely to face wage differential at the workplace than married respondents. Occupations are essential determinants for checking wage differentials between male and female respondents in the workplace. Respondents working in managerial-related occupations have faced more wage differentials at the workplace compared to other occupations. All determinants impact wage differential at work, but we conclude that personal attributes like education are the primary determinants to check wage differential at the workplace.

Findings reveal that female respondents are likelier to have wage differentials in the workplace than male respondents. Educated females are less likely to experience wage differential in the workplace than uneducated or less educated females. The finding supports the policy recommendation to provide educational opportunities to females to combat wage differential at the workplace. Well-aware, educated females may play a dual role in society. On the one hand, educated females have higher skills and knowledge, so they have fewer chances to face wage differential in the workplace. On the other hand, educated women can effectively participate in supporting their families. There is a need to invest more in female education.However, on the contrary, educated males in urban areas earn lower wages than less-educated males in rural areas. It brings attention to the problem that the supply of highly educated male workers in urban areas may be more than its demand compared to rural areas. It is, therefore, recommended that the

infrastructure of rural areas be improved to restrict the excessive burden of the workforce in urban areas. It is also recommended here to absorb the workforce, and the education should align with the job requirements.

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