

Original Article

# Intergenerational Comparison of Women Empowerment and its Determinants

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## Abstract

**Background:** Keeping in mind the importance of women empowerment for the growth of a country the present study aims to measure the empowerment of mothers' generation and daughters' generation and to estimate the chances of the transition of empowerment from mothers' generation to daughters' generation and the impact of demographic, social and economic indicators on the empowerment of mother's generation and daughter's generation.

**Methodology:** A questionnaire was used to collect data from Rawalpindi, Islamabad, and selected rural areas. The data from 510 women, including 198 mother-daughters pairs, was collected using a mixed sampling technique. Descriptive analyses, as well as logistic regressions, were employed to examine the determinants of women empowerment. Non-parametric tests were used to make inter as well as intra-generational comparisons among different dimensions of empowerment.

**Results:** The results of logistic regression revealed that women's empowerment is significantly affected by age, years of schooling, mother's years of schooling, area of residence work experience, type of employer, and personal income. While examining the transition of empowerment from mothers to their daughters it was seen that highly empowered mothers have high chances of having empowered daughters.

**Conclusion:** Promoting the education of women, provision of loans, financial aid, and other facilities to women because all these help empower women, and since there is the transition of empowerment from mothers to their daughters, empowering a woman also means empowering her next generation.

## Keywords

Women Empowerment, Intergenerational Comparison, Transitional Probabilities.

## Introduction

Women's empowerment has been a significant issue in the contemporary world. It has been identified as one of the critical elements of poverty reduction strategies and crucial development goals. Women empowerment is promoted because social justice is imperative for society's welfare, and therefore it is worth pursuing. Empowerment serves to stimulate growth, promote good governance, and reduce social inequality and poverty<sup>1</sup>.

There is growing acknowledgment that empowering women is crucial to realize their rights and their next generation's rights. It is also fundamental to accomplishing far-reaching development goals like economic growth, health, poverty alleviation, education, and welfare. Women's empowerment assists women to gain experience, confidence, and knowledge. It affects how they bring up their next generations and adds to their decision making power. It helps increase awareness and exposure of females. It provides them with equal opportunities to have an equal status in jobs to contribute to their next generation, community, and the country's economy. Therefore, the current study aims to highlight the possible impacts empowering mothers' generation has on the empowerment of daughters' generation.

Women's empowerment was neglected, and they were deprived of their basic rights. Men want their dominancy, so they are not willing to empower women<sup>2</sup>. Women around the world had to fight for their legal, political, social, and economic rights. They have been excluded from the socio-economic development process. Even though their condition has improved compared to the past, women worldwide still face hurdles in their way to grow as individuals and work as productive and efficient members of society. Therefore, it is high time that light is shed on the importance of empowering 49.6% of the world population. So in the current study, we aim to measure women's empowerment by considering the rights, choices, autonomy, and power.

The most prominent evidence of women's important role in economic development comes from the research used for the 'Gender Mainstreaming Strategy' by the World Bank, launched in 2001<sup>3</sup>. The research emphasized that gender discriminating societies are inclined towards sluggish economic growth, and poverty declines than those which treat females as equal to men and that gender disparity produces economically ineffective outcomes in a social setup. For instance, it is found that if, from 1960 and 1992, the gender gap in schools of African countries had narrowed down as rapidly as it did in East Asia, the region would have witnessed a doubling of per capita income.

Identification of females as steadfast, productive, efficient, and economical labour makes them the preferable workforce for electronic and textiles multinational corporations. The perception of them as being 'good with money,' including being better at paying back loans and handling the finances, has made them the target of microfinance programs<sup>4</sup>. Their acknowledgment as more competent distributors within the household has enabled them to be targeted by poverty alleviation programs, such as cash transfer programs.

While the process of empowerment applies to both sexes, it is more relevant for women<sup>5,6</sup>. Women's disempowerment is more pervasive<sup>7</sup>. It cuts across class and other social distinctions and is made more complicated because household and intra-familial relationships are a significant source of women's powerlessness<sup>8,9</sup>.

Empowering women may have effects on the next generation. The marginal impact of an increase in household income on the reduction of child mortality is approximately 20 times higher if it is given to the mother rather than a father. Therefore, the intergenerational aspect of women empowerment is very important. However, there isn't much literature available on the pair-wise inter-generational comparison. Only one such study by Schuler<sup>10</sup> was found which compared daughters with their mothers but the data size of 20 is considerably small. The current study fills that

gap by comparing mothers with their daughters by using a comparatively larger data set.

Some argue that as a process, empowerment can only be measured through proxies like education level, health, knowledge<sup>11,12</sup>. Removal of obstructions for women working in certain occupations and sectors can raise output by increasing the participation of women and productivity of labor by as around 25 percent for some countries by allocating their talent and skills in better ways<sup>13</sup>.

So the current study intends to explore the impact of socioeconomic, economic, and demographic variables on women empowerment.

## Methodology

The term empowerment, in the literature, represents a wide array of concepts. The concept is wide and contextual; hence, it lacks a universal definition or universally agreed-upon measures. Therefore, identification of the possible measures of women empowerment is an important step forward. This study first tries to identify women empowerment's possible measures and then construct an empowerment index. The index is later used to make inter and intra-generational comparisons and highlight women empowerment's possible determinants in different contexts. This section elucidates the issues in the measurement of empowerment, inter and intra-generational comparison of empowerment across generations, transition matrices of women empowerment, and logistic regressions to see women empowerment sources.

### Measurement of Women Empowerment

The process of empowerment is a dynamic change through which "those who have been denied the ability to make choices acquire such ability." Empowerment goes from disempowered to the more empowered state; hence it is more important for the disempowered and less powerful women. Several defining elements are common to the frameworks used to conceptualize the

empowerment process<sup>14,15</sup>. The leading defining aspect is the agency, which is the "ability to define one's goals and act upon them"<sup>16</sup> or the ability to gain control over various aspects of one's life<sup>17</sup>.

The other key element includes the access and control over resources (human, material, and social) that women acquire from their positions and relationships in the spheres of the family and society. Finally, the social circumstances of a woman's life, such as marriage, household wealth, and characteristics of the family she belongs to, affect the choices and opportunities that are available to her. All these aspects are imperative in any framework to measure women's empowerment.

Despite the diversity of the phenomenon of empowerment, the study of the concept shows greater consensus than expected in the literature. A few most repeated terms explain empowerment: choice, option, power, and control. In the literature, these terms usually refer to women's authority to decide and influence the outcomes that affect them and their families, having the ability to control their own life and well-being, and control over the resources. For instance, empowerment is illustrated by Sen<sup>18</sup> as: "Altering relations of power, which constrain women's options and autonomy and adversely affect health and well-being."

The literature suggests that domestic decision-making, mobility/freedom of movement, and access/control over resources are the most frequently used indicators of empowerment include. While the indicators used less frequently are economic contribution, division of domestic labour, management/knowledge, freedom from violence, public space including political participation, confidence in community actions, couple interaction, social support, sense of self-worth, appreciation in the household<sup>8</sup>. After considering the relevant literature, the present study's framework measures empowerment through six main factors. These factors are shown in Figure 1.

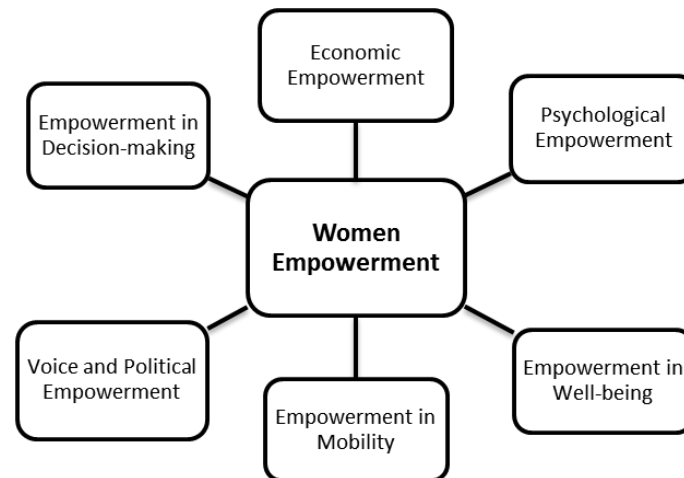


Figure 1: Measures of women empowerment

Generally, for women, their role in the decision-making, their ability to move freely, and other empowerment measures change throughout their lives. These may also be different across different generations. Over the life cycle, women tend to think that marital violence is less and less justifiable. Those younger cohorts are less likely than older cohorts to view marital violence as justifiable, even controlling for education<sup>19</sup>. Empowering women may have an impact on the next generation. The marginal effect of an increase in household income on reducing child mortality is approximately 20 times higher if given to the mother rather than the father. Therefore, the intergenerational aspect of women empowerment is an important dimension to study. The relation of young women with their mothers may affect their empowerment. In economic and educational domains, the impact of empowerment across generations is high. Mothers promote the empowerment of unmarried daughters in one core domain, i.e. education. Most empowered mothers prioritize education and view it as a way to improve their daughters' lives<sup>4</sup>. However, there isn't much literature available on the pair-wise inter-generational links of empowerment. The current study fills the gap by comparing mothers with their daughters. And tries to inspect for the possible impacts empowering mothers' generation has on their daughters' empowerment.

After measurement of women empowerment, the current study mainly analyzed the empowerment

in three parts. First, due to the ordinal measurement of empowerment, there will be a discussion of non-parametric tests, followed by the discussion of transition matrices to see women empowerment across generations. Then logistic regressions will be discussed to see the determinants of women empowerment.

#### Non-parametric tests

The present study uses two of the non-parametric tests, i.e. Wilcoxon rank-sum test and Sign test. Wilcoxon rank-sum test was first proposed by Frank Wilcoxon (1892–1965) to analyze independent samples<sup>20</sup>. Wilcoxon rank-sum test is used to make a comparison of two matched pairs. Wilcoxon originally introduced it to compare populations. In this study, the test is applied to compare the mother generation with the daughter generation. The hypothesis is whether the two populations are the same or not and whether the population on the right-hand side is higher than the other one or not. Statisticians have found that given the sample size of greater than 10, the test statistic is approximately normally distributed.

The other non-parametric test used is the Sign test. It is used to make comparisons within the same sample. The hypothesis takes the form of whether two attributes are the same for a population or one is higher than the other. In our case, we will use the Sign test to compare economic empowerment, empowerment in decision-making, voice, political empowerment, psychological empowerment,

empowerment of mobility, and empowerment in each respondent's well-being.

We intend to use non-parametric tests to make comparisons among different aspects of empowerment within and across generations. Since one of our objectives is to examine the transition of empowerment across generations, i.e. how does the mother's empowerment affect the probability of empowerment of the daughter, which couldn't be analyzed through non-parametric tests, therefore will use transition matrices for this purpose?

### **Transition Matrices**

Transition matrices are used to compare groups and check for the presence of persistence or mobility. In our case, we used them to see whether there is the transition of empowerment from mothers' generation to daughters' generation. It will help us analyze how a mother's empowerment alters the chances of empowerment of her daughter. The probabilities of transition matrices highlight that given all the mothers have a specific level of empowerment, daughters' chances to be on the same, lower, or higher level of empowerment. So transition matrices are used to test for the second hypothesis, i.e. do more empowered mothers lead to more empowered daughters or not?

After making inter and intra-generational comparisons of empowerment measures, we will try to inspect the determinants of women empowerment for whole data, mother generation, and daughter generation. For this purpose, we will use logistic regressions.

### **Logistic Regressions**

Women empowerment is a multifaceted phenomenon with varying determinants highlighted by the literature. To explore the determinants of empowerment for women and to investigate whether these determinants are different for mothers' generation and daughters' generation or not, the present study takes into consideration three types of indicators, including economic, socio-economic, and demographic

variables. Overall, women's empowerment is a function of these three indicators.

$WE=f(DI, SEI, EI)$  Whereas WE represent women empowerment, DI represents demographic indicators, SEI represents socio-economic indicators, and EI represents economic indicators. A detailed description of these variables is provided in the next section.

Since the dependent variable is ordinal, the study uses logistic regression to carry out the analysis. The study first treats empowerment as having five varying levels, i.e. our dependent variable is ordinal and measured on a five Likert scale where 1 is the least level of empowerment and five displays the highest level of empowerment. Later the study treats empowerment as a binary dependent variable, and women are either empowered or not; here, 1 means "empowered" or 0 means "not empowered."

### **Data and Variable Description**

This study used a questionnaire to collect data. Various questions regarding the target variables were inquired. The questionnaire is divided into three sections; the first section consists of questions targeting the respondent's decision-making role; the second contains questions regarding job information; the third incorporates personal information questions.

The advantage of using a questionnaire as a source of data is that it allows for a comprehensive study involving a larger number of subjects, and hence increasing the generalization of results. These types of questionnaires have some shortcomings too, for example, requiring a lot of time, the problem with the reliability due to miss-responses by the respondents; however, these drawbacks are compensated by some of the advantages, which include quick turnarounds, anonymity, and ease of self-organized questionnaire with suitable sample size. Adequacy and reliability of the data source and variable construction are essential for an empirical study's consistency. For analysis, we collected primary data from the regions of Rawalpindi and Islamabad. Three rounds of pilot

surveys were run to know about the participants' understanding of the questionnaire instruments. In the first round, the questionnaires were distributed among friends and colleagues to get their opinions and suggestions. After making the required changes, the questionnaires were distributed amongst teachers and experts in the second round to identify any problem in the questionnaire. In the third round, the questionnaires were distributed among local women to judge whether the questionnaires are comprehensible. After making the required amendments, the questionnaires were distributed for data collection in the regions of Rawalpindi, Islamabad, and the selected rural areas.

The sample was collected through mixed sampling. The population was divided into three strata, which included Rawalpindi, Islamabad. After that, all the

women are selected for surveys randomly and based on accessibility. Two types of samples were collected. One sample consists of 198 mother-daughter pairs. Out of 198, 138 consists of mother-daughter pairs from urban regions of Islamabad and Rawalpindi. The overall sample consists of 510 female respondents of age 18 and above. Out of 510, 101, and 282 consists of women from Islamabad and Rawalpindi, respectively, making up the total urban data of size 383 women. The rural sample is of size 127 women. All the married, unmarried, working, non-working, retired, educated, and uneducated women are included among the respondents. For the respondents who were unable to comprehend the English language, the author filled the questionnaires by getting information in the local language, commonly Urdu or Punjabi. The distribution of the respondents is provided in Table 1.

**Table 1: Segregation of the data**

<b>Age-wise segregation</b>		Urban	Rural
<b>Age</b>	18-30	217	64
	31-45	79	18
	>45	84	45
<b>Marital status-wise segregation</b>			
<b>Marital status</b>	Married	184	63
	Otherwise	199	64

\*Authors' calculations. The values represent number of respondents from each category.

This study's variables can be broadly classified into two main categories: first are used to construct the index of empowerment and the second one include the determinants of women empowerment. This study chiefly focuses on women empowerment in six important contexts, which are as follow:

Women Empowerment in Decision-making (WED): Decision-making includes the role women have in the decisions made in their household and their surroundings. All these decisions directly or indirectly affect them or the people around them. The variable is constructed using 18 questions with each converted into five categories having value 1 if least empowered in decision making and 5 if highly empowered in decision making.

Women Economic Empowerment (WEE): Economic empowerment comprises control and ownership of assets. It includes women's role in economic decisions made in their surroundings, ownership and control over resources, whether they are given inheritance rights or not, and the expenditure on themselves. The variable is constructed using 20 questions with each converted into 5 categories having value 1 if least empowered in decision making and 5 if highly empowered in decision making.

Empowerment in mobility (WEM): Mobility reflects the freedom of women to use the public sphere. It incorporates three different dimensions of mobility, including whether they have any restriction in terms of timings, do they have to take someone's permission to move, and are allowed to



move alone in public. The variable is constructed using 20 questions with each converted into 5 categories having value 1 if least empowered in decision making and 5 if highly empowered in decision making.

Women empowerment in Voice and political participation (WEV): Voice and political empowerment reflect women's freedom to raise their voice in issues around them. It includes whether women are confident enough to raise their voices and any obstruction to raise their concerns. They are free to use different communication methods like cellphone, social media, and newspapers, and do they feel uncomfortable addressing a public gathering. The variable is constructed using 22 questions with each converted into 5 categories having value 1 if least empowered in decision making and 5 if highly empowered in decision making.

Women Psychological empowerment (WEP): Psychological empowerment shows how empowered women are psychologically. It illustrates women's sense of self-worth, accomplishment, and competitiveness. It also includes their perception of women's ability and worth in general. In short, it reflects their overall perception of how empowered they are. The variable is constructed using 18 questions with each converted into 5 categories having value 1 if least empowered in decision making and 5 if highly empowered in decision making.

Women Empowerment in well-being (WEW): Well-being reflects access and availability of different necessities and facilities. It includes primary, secondary, and higher education, health services, and support networks. It also includes women's freedom from violence and appreciation in the household. The variable is constructed using 9 questions with each converted into 5 categories having value 1 if least empowered in decision making and 5 if highly empowered in decision making.

Women empowerment overall (WEO): The variable is constructed using empowerment in decision making, economic empowerment, psychological empowerment, voice and political empowerment, empowerment in well-being, and empowerment in mobility.

The women empowerment indices were constructed using all questions of the relevant category mentioned above. For instance, 18 questions related to empowerment in decision-making, and the total score attained by the subject in the questions related to empowerment in decision-making was divided by 18 (the total number of relevant questions). Later the results were scaled from 1 to 5 such that average score 1 to 1.8 as 1, average score 1.8 to 2.6 as 2, average score 2.6 to 3.4 as 3, average score 3.4 to 4.2 as 4, and average score 4.2 to 5 as 5. Rests of the five indices and one overall women empowerment index were constructed similarly.

Women empowerment is a multidimensional phenomenon, and the literature illustrates varying determinants of it. The present study divides the determinants of women empowerment into three broad categories: demographic variables, socio-economic variables, economic variables. The demographic variables include age (number of years), marital status (1 for "married" and 0 for "unmarried" women), education (years of schooling), parents' education (years of schooling of respondent's mother), number of children, and total members of the family. The socio-economic variables include family type (1 if the respondent lives in a nuclear family and 0 otherwise) and location of residence (1 if the respondent lives in Rawalpindi city and 0 otherwise). The economic variables include the type of employer (1 if the respondent is working in a government institution and 0 otherwise), work experience (number of years), employment status (1 for employed and 0 otherwise), personal income and expenditure, family income, family expenditure, and the number of earners in the family.

## Results & Discussion

While observing women's empowerment, the significant role of institutions, policies, and socio-economic factors in determining their competencies in society must be considered. The current study makes use of direct responses from the respondents. Therefore, it assesses empowerment through direct measures. This section encompasses the results and discussion of the index, models, and variables. The section starts

with a descriptive analysis of the variables and the discussion of results based on non-parametric techniques, followed by assessing empowerment determinants. Latterly, there will be a discussion regarding the conclusion.

By using various indicators of women empowerment, we calculated simple indices for various indicators of empowerment. Table 2 shows the frequency and percentage of women against the responses.

**Table 2: Frequency and percentage of women against the empowerment indices**

Variable	Number of Responses					Average Value
	1	2	3	4	5	
WED	14(2.7)	130(25.5)	256(50.2)	96(18.8)	14(2.7)	2.93
WEM	24(4.7)	227(44.5)	194(38.0)	55(10.8)	10(2.0)	2.60
WEP	16(3.1)	58(11.4)	296(58.0)	123(24.1)	17(3.3)	3.13
WEV	---	35(6.9)	156(30.6)	184(36.1)	135(26.5)	3.82
WEW	---	13(2.5)	71(13.9)	231(45.3)	195(38.2)	4.19
WEE	167(32.7)	275(53.9)	68(13.3)	---	---	1.8
WEO	4(0.8)	86(16.9)	279(54.7)	138(27.1)	3(0.6)	3.09

\*Authors' calculations. Values represent number of respondents in each category, whereas values in parentheses are percentages of total observations.

Women empowerment in decision-making: The decision-making index shows that 2.7% of the total respondents have no input in the decision-making process as they scored 1 in decision-making as a component of empowerment. However, 25.5% had some input in the overall decision-making. Moreover, on average, 50.2% have an equal share in the decisions made, while 18.2% had a major role in decision making. Further, only 2.7% make the final decision. The average decision-making index is 2.93, with a standard deviation of 0.812. This shows the overall below-average performance of women in the decision-making process. Since the average of the index lies below 3, it reflects that, on average, women have a less than equal share in the final decisions made in their lives, affecting them and the people they surround.

Women empowerment in mobility: The mobility index shows that 4.7% of the total respondents cannot freely use the public sphere. Furthermore, 44.5% had some freedom, with an average score

of 2. Moreover, 38% have scored 3, reflecting an average level of freedom of mobility, while 10.8% and 2% have a score of 4 and 5, respectively, reflecting a comparatively higher level of freedom to use public spheres. The average decision-making index is 2.60, with a standard deviation of 0.816. The average freedom of mobility index shows that women do not enjoy a high level of freedom in terms of time, moving without permission, moving alone, and freedom from harassment while using the public sphere.

Women Psychological empowerment: The psychological index indicates that 3.1% of the total respondents have, on average, scored the minimum possible score in psychological empowerment, i.e. 1. Moreover, 11.4% have scored a 2, reflecting a below-average score. However, 58% have an average level of psychological empowerment. 24.1% and only 3.3% scored 4 and 5 respectively. The average psychological empowerment index is 3.13, with a standard



deviation of 0.77. The average of better than 3 means that psychologically women are above average empowered; however, the score is not that above three, reflecting that women aren't much empowered psychologically.

**Voice and Political empowerment of women:** The voice and political empowerment index indicates that none of the total respondents has scored the minimum possible score in psychological empowerment, i.e. 1. And 6.9% have scored a 2, reflecting a below-average score. However, 30.6% have an average score. Furthermore, 36.1% and 26.5% of the respondents scored 4 and 5, respectively. The average voice and political empowerment index are 3.82, with a standard deviation of 0.90. The above-average score of women in voice and political empowerment shows that women are better off in this facet of empowerment. Since this facet involves their freedom to use the means of communication and their confidence, ability, and freedom to raise the voice in different spheres of life, be it social, political, or economic, higher score points toward a hope for a bright future for women.

**Women empowerment in well-being:** The well-being index points out that none of the total respondents has scored the minimum possible score in appreciation and well-being index, i.e. 1. And 2.5 % have scored a 2, reflecting that only a small fragment lies below-average score. However, 13.9% have an average score. Furthermore, 45.3% of the respondents have an average score of 4, and 38.2% of them scored 5. The average appreciation and well-being index is 4.19, with a standard deviation of 0.76. This facet of women empowerment reflects the appreciation women receive from their social circle, how free they are from violence, and their access to necessities and needs. A higher average shows that women are better off in this regard.

**Economic empowerment index:** The economic index shows that 32.7% of the total respondents have scored the minimum possible score in the economic index, i.e. 1. Furthermore, 53.9 % have scored a 2, reflecting that more than half of the

respondents lie below average in terms of economic well-being. However, 13.3% have an average score. Furthermore, none of the respondents scored 4 or 5. The average economic index is 1.8, with a standard deviation of 0.65. An average as low as 1.8 indicates that women's economic empowerment has a long way to go. This aspect of empowerment reflects women's access to jobs, banks and cash, control over resources, asset ownership, role in economic decision-making, and spending on themselves.

**Overall empowerment index:** The overall empowerment index shows that only 0.8% of the total respondents are not empowered, as they scored 1 in the overall empowerment index. But the statistics also show that only 0.6% have a score of 5, i.e. the maximum level of empowerment. Moreover, 16.9% are somewhat empowered, with an overall average of 2. However, 54.7% have an average level of empowerment, while 27.1% scored four on the empowerment index. The average decision-making index is 3.09, with a standard deviation of 0.69. The overall empowerment is calculated by taking an average of the scores in the facets of empowerment in decision-making, empowerment in mobility, psychological empowerment, voice and political empowerment, and empowerment in well-being and economic empowerment. The average is very close to 3; it reflects that women performed average in overall empowerment.

Two non-parametric tests were applied, namely the Wilcoxon rank-sum test and sign test Wilcoxon rank-sum test and Sign test. Wilcoxon rank-sum test is used to make a comparison of two matched pairs. In this study, the test is applied to compare the mother generation with the daughter generation. The hypothesis is whether the two populations are the same or not and whether the population on the right-hand side is higher than the other one or not.

In the present section, we will discuss the results based on the Wilcoxon rank-sum test in detail. First, we shall discuss the overall data results, followed

by the discussion of rural data and urban data results, respectively.

The results of the Wilcoxon rank-sum test for the overall data show that the null hypothesis that empowerment in decision making of a daughter is greater than empowerment in the decision making of a mother cannot be accepted against the alternative hypothesis of empowerment in decision making of a daughter is not greater than empowerment in decision making of a mother. Therefore, we can say that the mother generation has more decision-making power than their daughters. The results also show that empowerment in mobility and empowerment in terms of a daughter's well-being is not greater than that of the mother generation. The economic empowerment of the mother generation is also higher than that of the daughter generation. But the daughter's voice and political empowerment is greater than the voice and political empowerment of the mother generation. The psychological empowerment of the daughter is also greater than the psychological empowerment of the mother generation. Overall empowerment of mother generation is higher than the overall empowerment of daughter generation.

The Wilcoxon rank-sum test results for rural data reveal that empowerment in the mobility of the

mother generation is higher than that of the daughter generation. But the daughter's voice and political empowerment is greater than the voice and political empowerment of the mother generation. The psychological empowerment of the daughter generation is also greater than the psychological empowerment of the mother generation. Empowerment in well-being and economic empowerment of mother generation is higher than that of daughter generation; whereas, the overall empowerment of daughter generation is greater than that of the mother generation. The Wilcoxon rank-sum test results for urban data reveal that the empowerment in the mobility of mother generation is higher than that of daughter generation. But the daughter's voice and political empowerment is greater than the voice and political empowerment of the mother generation. The psychological empowerment of the daughter is also greater than the psychological empowerment of the mother generation.

Empowerment in well-being and economic empowerment of mother generation is higher than that of daughter generation. Also, the mother generation's overall empowerment is higher than the overall empowerment of the daughter generation. The results are shown in Table 3.

**Table 3: Results for comparison of mothers' empowerment and daughters' empowerment**

<b>WED<sub>M</sub></b> <b>vs</b> <b>WED<sub>D</sub></b>	<b>WEM<sub>M</sub></b> <b>vs</b> <b>WEM<sub>D</sub></b>	<b>WEP<sub>M</sub></b> <b>vs</b> <b>WEP<sub>D</sub></b>	<b>WEV<sub>M</sub></b> <b>vs</b> <b>WEV<sub>D</sub></b>	<b>WEW<sub>M</sub></b> <b>vs</b> <b>WEW<sub>D</sub></b>	<b>WEE<sub>M</sub></b> <b>vs</b> <b>WEE<sub>D</sub></b>	<b>WEO<sub>M</sub></b> <b>vs</b> <b>WEO<sub>D</sub></b>
<b>Urban Data</b>						
-9.21*** (0.000)	-5.84*** (0.000)	5.91*** (0.000)	1.83** (0.033)	-1.96** (0.025)	-6.60*** (0.000)	-2.93*** (0.002)
<b>Rural Data</b>						
-5.72 (0.100)	-3.86*** (0.000)	1.39* (0.080)	1.42* (0.078)	-1.22 (0.110)	-6.35*** (0.000)	3.13*** (0.001)
<b>Overall Data</b>						
-7.25 (0.170)	-4.67*** (0.000)	6.18*** (0.000)	1.66** (0.049)	-1.62* (0.052)	-4.49*** (0.000)	-2.09** (0.018)

\*Authors' calculations. The subscript D and M are for the daughter and mother, respectively. Values represent test-statistics obtained through Wilcoxon rank-sum tests, whereas values in parentheses are the P-values. \*\*\*, \*\*, \* indicate significance at 1%, 5%, and 10% level of significance, respectively.

Based on the Wilcoxon rank-sum test, empowerment in decision-making, mobility, well-being, and economic standing is higher for the mother generation. This may be that in most households, mothers have more say in decisions made and have more control over the resources than their daughters, which ultimately leads to more well-being. However, voice and political empowerment are higher for the daughter generation. This could be because of their more access to the internet and social media. Overall empowerment is higher for mother generation in

overall and urban data, whereas it is higher for daughter generation in rural data.

The other non-parametric test used is the Sign test. It is used to make comparisons within the same sample. The hypothesis takes the form of whether two attributes are the same for a population or one is higher than the other. We used the Sign test to compare economic empowerment, empowerment in decision-making, voice, political empowerment, psychological empowerment, empowerment in mobility, and empowerment in the well-being of each respondent. The results are shown in Table 4.

**Table 4: Results for comparison of types of women empowerments based on the Sign test**

	WEM	WEP	WEV	WEW	WEE
<b>Comparison of Empowerment for Rural Data</b>					
<b>WED</b>	7.78*** (0.000)	0.82 (0.200)	-0.81 (0.209)	-8.57*** (0.000)	11.04*** (0.000)
<b>WEM</b>		-6.81*** (0.000)	-7.02*** (0.000)	-10.30*** (0.000)	9.75*** (0.000)
<b>WEP</b>			-1.5* (0.066)	-9.13*** (0.000)	10.77*** (0.000)
<b>WEV</b>				-9.27*** (0.000)	10.77*** (0.000)
<b>WEW</b>					11.22*** (0.000)
<b>Comparison of Empowerment for Urban Data</b>					
<b>WED</b>	4.89*** (0.000)	-2.86*** (0.002)	-13.31 (0.209)	-14.78*** (0.000)	13.92*** (0.000)
<b>WEM</b>		-5.65*** (0.000)	-14.30*** (0.000)	-15.37*** (0.000)	12.33*** (0.000)
<b>WEP</b>			-12.67* (0.066)	-13.44*** (0.000)	13.97*** (0.000)
<b>WEV</b>				-5.63*** (0.000)	16.43*** (0.000)
<b>WEW</b>					1116.43*** (0.000)
<b>Comparison of Empowerment for Overall Data</b>					
<b>WED</b>	9.56*** (0.000)	-4.20*** (0.000)	-14.65*** (0.000)	-18.85*** (0.000)	19.77*** (0.000)
<b>WEM</b>		-10.86*** (0.000)	-18.49*** (0.000)	-20.50*** (0.000)	17.02*** (0.000)
<b>WEP</b>			-13.47*** (0.000)	-17.23*** (0.000)	20.37*** (0.000)
<b>WEV</b>				-10.15*** (0.000)	22.23*** (0.000)
<b>WEW</b>					22.49*** (0.000)

\*Authors' calculations. Values represent test-statistics obtained through Sign tests, whereas values in parenthesis are the P-values. Whereas \*\*\*, \*\*, \* indicate significance at 1%, 5%, and 10% level of significance, respectively.

The sign test for overall data shows that empowerment in women's decision-making is greater than their empowerment in mobility and their economic empowerment. However, women's empowerment in mobility is only greater than their economic empowerment. Women's voices and political empowerment are greater than their economic empowerment, empowerment in mobility, empowerment in decision-making, and psychological empowerment. Psychological empowerment of women is greater than their economic empowerment, empowerment in decision making, and their empowerment in mobility; whereas, women's empowerment in well-

being is greater than their economic empowerment, psychological empowerment, empowerment in mobility, and voice and political empowerment.

Based on the sign test for rural data, the results are: empowerment in women's decision-making is greater than their freedom of mobility and economic empowerment. Empowerment in mobility is only greater than economic empowerment. Voice and political empowerment are greater than economic empowerment, empowerment in mobility, decision-making, and psychological empowerment. Psychological

empowerment is greater than economic empowerment and empowerment in terms of freedom of mobility. In comparison, empowerment in well-being is greater than economic empowerment, psychological empowerment, empowerment in mobility and voice, and political empowerment.

The sign test for urban data shows that empowerment in women's decision-making is greater than their empowerment in mobility and economic empowerment. Empowerment in mobility is only greater than economic empowerment. Voice and political empowerment are greater than economic empowerment, empowerment in mobility, and psychological empowerment. Psychological empowerment is greater than economic empowerment, empowerment in decision making, empowerment in mobility, while empowerment in well-being is greater than economic empowerment, psychological empowerment, empowerment in mobility and voice, and political empowerment.

Based on the sign test, women are least empowered in terms of economic standing, and their empowerment in this sphere is less than all the dimensions of empowerment. This could be because of the small control they have over the resources, and the result is in line with the literature<sup>21</sup>. Their empowerment in freedom to move is only better than their economic empowerment; otherwise, it is worse than all other empowerment dimensions. They are most empowered in terms of well-being, which shows the availability and access to necessities and facilities and their importance and appreciation at the household.

This could be that our data is from the areas that are comparatively developed or situated near some developed areas. After that, they are empowered in terms of voice and political awareness. The empowerment in this dimension is only less than their empowerment in terms of wellbeing; the research by Amichai<sup>8</sup> supports this. Their psychological empowerment condition comes next, which is better than their economic

empowerment, empowerment in decision making, and empowerment in mobility for urban women the overall data.

Transition matrices are used to see the transition of empowerment from the mother generation to the daughter generation. Based on the transition matrix between overall empowerment of mother generation and overall empowerment of daughter generation, it can be seen that 57.7% of the mothers having an empowerment level of 2 also have a daughter with the same level of empowerment, and they comprise 8% of the total mother-daughter pairs. 34.6% of the mothers with an empowerment level of 2 have their daughters at an empowerment level of 3, while only 7.7% have an empowerment level of 1 when their mothers are on level 2. None of the mothers on empowerment level 2 have a daughter on higher levels of empowerment, i.e. 4 and 5.

For the total mother-daughter pairs where the mother is on level 3 of empowerment, 72.3% of the daughter generation also shares the same level of empowerment. While 19.8% lie on empowerment level 2 and 8% lie on empowerment level 4, i.e. they have an empowerment level above their mothers. None of the mothers on empowerment level 3 have a daughter on empowerment level 1 (least empowered) or 5 (highest level of empowerment). Out of the total mother generation with the empowerment level of 4 has 55 percent of daughter generation with an empowerment level of 3. While 44.9% lie on the same level of empowerment, i.e. 4. All the daughter generation of the mother generation having the highest level of empowerment, i.e. 5 has the empowerment level of 4. These results are shown in Table 5.

The probabilities of the transition matrix show that given that all the mothers have their empowerment at level 2, there will be 7.6% chances of the daughter generation being on level 1 of empowerment. The mother's empowerment level of 3, 4, and 5 having a daughter of empowerment level of 1 are insignificant. It can be seen that there are 57.68% chances for the daughter generation to be on level 2 of empowerment, given that all the

mothers lie on level 2. Whereas, if all the mothers lie on level 3, there are 19.8% chances that the daughter generation will be on level 2 of empowerment. The results for 4 and 5 levels of mother's empowerment having a daughter's empowerment level of 2 are insignificant.

The probabilities of the transition matrix show that given that all the mothers have their empowerment at level 2, there will be 34.62% chances of the daughter generation being on level 3 of empowerment. If all the mothers have empowerment level 3, then there are 72.27% chances that the daughter generation will also be on level 3. If all the mothers lie on the 4th level, then there are 55% chances that the daughter generation will be level 3 of empowerment. The

mother's empowerment level of 5 having a daughter of empowerment level of 3 is insignificant.

For the urban data, all of the mother generation with an empowerment level of 1 has their daughters on level 2 of empowerment. So the daughter generation is comparatively more empowered in this case. Similarly, the mother generation with an empowerment level of 2 has their daughters on level 2 of empowerment. So the daughter generation is equally empowered in this case. Out of the total mothers on level 3 of empowerment, 39.75% have their daughters on the same level of empowerment. While 0%, 35%, 16.86% and 7.2% lie on level 1, 2, 4 and 5, respectively.

**Table 5: Transition matrix of empowerment from mother generation to daughter generation**

		WEO <sub>M</sub>					Total	
		Least Empowered		Highly Empowered				
		1	2	3	4	5		
<b>Urban Region</b>								
<b>WEO<sub>D</sub></b>	<b>LE</b>	<b>1</b>	-	-	1(0.007)	-	-	1(0.007)
		<b>2</b>	2(0.14)	9(0.06)	29(0.21)	3(0.02)	-	43(0.31)
		<b>3</b>	-	-	33(0.24)	17(0.13)	-	50(0.37)
		<b>4</b>	-	-	14(0.11)	19(0.14)	-	33(0.24)
	<b>HE</b>	<b>5</b>	-	-	6(0.04)	2(0.01)	-	8(0.06)
<b>Rural Region</b>								
<b>WEO<sub>D</sub></b>	<b>LE</b>	<b>1</b>	-	-	-	-	-	-
		<b>2</b>	-	6(0.00)	2(0.03)	-	-	8(0.12)
		<b>3</b>	-	20(0.31)	31(0.49)	-	-	51(0.81)
		<b>4</b>	-	-	4(0.06)	-	-	4(0.06)
	<b>HE</b>	<b>5</b>	-	-	-	-	-	-
<b>Overall Region</b>								
<b>WEO<sub>D</sub></b>	<b>LE</b>	<b>1</b>	-	2(0.01)	-	-	-	2(0.01)
		<b>2</b>	-	15(0.08)	20(0.10)	-	-	35(0.17)
		<b>3</b>	-	9(0.05)	73(0.36)	38(0.19)	-	120(0.60)
		<b>4</b>	-	-	8(0.04)	31(0.15)	2(0.01)	41(0.20)
	<b>HE</b>	<b>5</b>	-	-	-	-	-	-

\*Authors' calculations. The subscript D and M are for the daughter and mother. Values represent number of respondents in each category, whereas values in parentheses are percentages of total observations. LE and HE represents low and high empowerment, respectively.

Given that all the mothers have an empowerment level of 3, there are 7.9% chances that the daughter will be on level 4 of empowerment. If all the mothers lie on level 4, then there are 44.9% chances that the daughter will also be on the same

level of empowerment. And there are 100% chances for the daughter to be on level 4 of empowerment given that the mother has an empowerment level of 5. The results are shown in Table 6.

**Table 6: Transition probability matrix of empowerment from mother generation to daughter generation.**

<b>WEO<sub>M</sub></b>	<b>WEO<sub>D</sub>=1</b>	<b>WEO<sub>D</sub>=2</b>	<b>WEO<sub>D</sub>=3</b>	<b>WEO<sub>D</sub>=4</b>
<b>2</b>	0.077	0.576	0.3462	0.000
<b>3</b>	0.000	0.198	0.723	0.079
<b>4</b>	0.000	0.000	0.550	0.449
<b>5</b>	0.000	0.000	0.000	1

\*Authors' calculations. The subscript D and M are for the daughter and mother. Values represent the transition probabilities.

It can be seen that 23.07% of the mothers having an empowerment level of 2 also have a daughter with the same level of empowerment, and they comprise 9% of the total mother-daughter pairs. 76.9% of the mothers with an empowerment level of 2 have their daughters at an empowerment level of 3. None of the mothers on empowerment level 2 have a daughter on the 1st, 4th, or 5th levels of empowerment.

For the total mother-daughter pairs where the mother is on level 3 of empowerment, 88.57% of the daughter generation also shares the same empowerment level. While 5.7% lie on empowerment level 2 and 11.42% lie on empowerment level 4, i.e. they have an empowerment level above their mothers. None of the mothers on empowerment level 3 have a daughter on empowerment level 1 (least empowered) or 5 (highest level of empowerment). None of the mothers lie on the least or the highest two levels of empowerment.

The probabilities of transition matrices for rural mother-daughter pairs show that given that all the mothers have their empowerment at level 2, then there are 23.07% chances that the daughter will have level 2. And if all the mothers are empowered at level 3, then there are 5.4% chances for the daughter to be on empowerment level 2.

Given that all the mothers have an empowerment level of 2, there are 76.9% chances that the daughter will be on level 4 of empowerment. If all the mothers lie on level 3, then there are 83.78% chances that the daughter will also be on the same level of empowerment. It can be seen that if all the mothers lie on empowerment level 2, then the results for the daughter's empowerment to be on level 4 are insignificant. And there are 10.80% chances for the daughter generation to be on level 4 of empowerment given that all the mothers lie on level 3. The results are shown in Table 7.

**Table 7: Transition probability matrix of empowerment from rural mother generation to daughter generation.**

<b>WEO<sub>M</sub></b>	<b>WEO<sub>D</sub>=2</b>	<b>WEO<sub>D</sub>=3</b>	<b>WEO<sub>D</sub>=4</b>
<b>2</b>	0.231	0.769	2.54E-08
<b>3</b>	0.054	0.838	0.108

\*Authors' calculations. The subscript D and M are for the daughter and mother. Values represent the transition probabilities.

It can be seen that when the mother is on the lower level of empowerment, there is a higher proportion of daughter generation lying on an empowerment level above that of mother generation as compared to those lying below the empowerment level of mother generation. But as the mother moves to a higher level of empowerment, there is a higher proportion of daughter generation that lies on an

empowerment level below that of mother generation than those that lie above the empowerment level of mother generation. But most of the daughter generation has the same level of empowerment as their mothers, which confirms that highly empowered mothers have highly empowered daughters. The results are in line with the previous literature were showed that



the provision of better facilities, education, health, and finance to women have a positive impact on their next generation<sup>22,23</sup>.

Logistic regression was used to test for women empowerment determinants by treating empowerment as a categorical variable with two possibilities 0 as not empowered and 1 as empowered. There are three types of regressions first for the whole data, second for the mother generation, and third for the daughter generation. The results for determinants of overall women empowerment are shown in Table 8 depict the results for determinants of women empowerment for mother and daughter generation, respectively.

According to the results of binary logit regression for overall data age, years of schooling, mother's years of schooling, area of residence work experience, type of employer, and personal income significantly impact empowerment. The age, years

of schooling, mother's years of schooling, area of residence, work experience, and personal income have a significant positive impact on empowerment, while working negatively affects empowerment. For every one-unit increase in a woman's age, her chances to become more empowered increase by 0.0079. And if her education is increased by one unit, then her chances to become empowered increase by 0.056. Mother's years of schooling also affect a significantly positive, and a one-unit increase in it increases daughters' chances to be empowered by 0.013. Area of residence also affects empowerment. If a woman lives in Rawalpindi city, her chances to be empowered increase by 0.15 compared to the counterparts not living in Rawalpindi city. For one unit increase in work experience, the chances to become empowered increase by 0.017. A 1 unit increase in personal income increases the probability of empowerment for a woman by 0.10.

**Table 8: Results for determinants of Empowerment**

	<b>Variable Notation</b>	<b>Daughter Generation</b>	<b>Mother Generation</b>	<b>Overall</b>
<b>Demographic Variables</b>	AGE	-0.005 (-0.82)	0.013 (1.61)	0.008** (2.00)
	MARRIED	-0.088* (-1.94)		-0.100 (-1.07)
	YOS	0.033** (2.33)	0.089*** (4.65)	0.056*** (6.45)
	YOSF	0.006 (1.05)	-0.016 (-1.41)	-0.003 (-0.59)
	YOSM	0.005 (1.21)	0.013 (1.03)	0.013** (2.36)
	TOC	0.118* (1.72)	0.041 (1.12)	0.033 (1.36)
	NOFM	0.010 (1.16)	-0.011 (-0.32)	-0.018 (-1.34)
<b>Socio-Economic Variables</b>	FMT	-0.067 (-1.03)	0.163 (1.52)	0.062 (1.05)
	ROR	0.197*** (3.04)	0.082 (0.84)	0.159*** (3.67)
<b>Economic Variables</b>	TOE	0.287 (0.50)	-0.236*** (-2.89)	-0.095 (-1.45)
	WEX	0.013 (0.31)	0.021 (1.41)	0.017** (2.31)
	RW	-0.027 (-0.44)	0.102 (0.42)	-0.146*** (-2.81)
	LPY	0.109** (2.20)	-0.083 (-1.03)	0.109*** (2.11)
	NOE	-0.079** (-2.55)	0.107** (1.98)	-0.023 (-0.94)
	N	187	167	434
	LR-Stat	80.47	129.72	187.29
	P-Value	0.000	0.000	0.00
	R <sup>2</sup>	0.4325	0.5917	0.363

\*Authors' calculations. Values are the coefficients obtained through logistic regression, whereas values in parentheses are Z-Values. \*, \*\*, and \*\*\* indicate significance at 10%, 5%, and 1% level of significance respectively.

Working negatively affects women's empowerment; it decreases the probability of becoming empowered by 0.14 compared to the women who are not working. The role played by

economic participation is important because if women contribute financially, they feel fewer obstructions in their empowerment. This relationship has an inverse effect because the

pressure of financial participation ultimately decreases women's authority<sup>24</sup>.

According to the results of binary logit regression for mother generation years of schooling, type of employer and number of earners in the family significantly impact empowerment. The years of schooling and the number of earners in the family have a significant and positive impact on empowerment, whereas working in government jobs negatively affects empowerment.

If women's education is increased by one unit, then their chances to become empowered increase by 0.089. For one unit increase in some earners in the family, the chances to become empowered for a woman increase by 0.017. Working in government organizations negatively affects the empowerment of women. It decreases the probability of becoming empowered by 0.23 compared to the women not working in government organizations.

According to the results of binary logit regression for daughter generation marital status, years of schooling, the total number of children, area of residence, personal income, and some earners in the family significantly impact empowerment. The years of schooling and the number of earners in the family have a significant positive impact on empowerment. In contrast, marriage and the number of earners in the family negatively affect empowerment.

For one unit increase in years of schooling and a total number of children, the probability of becoming empowered increases by 0.033 and 0.11, respectively. Area of residence also affects empowerment. If a woman lives in Rawalpindi city, her chances to be empowered increase by 0.19 compared to the counterparts not living in Rawalpindi city. A 1 unit increase in personal income increases the probability of empowerment for a woman by 0.109. Working negatively affects women's empowerment; it decreases the probability of becoming empowered by 0.14 compared to the women who are not working. The total number of earners and marital status negatively affect women empowerment, and for

every one-unit increase in them, the probability of empowerment decreases by 0.079 and 0.087, respectively.

Age, years of schooling, mother's years of schooling, area of residence, work experience, type of employer, and personal income have a significant impact on empowerment. The age, years of schooling, mother's years of schooling, area of residence, work experience, and personal income have a significant positive impact on empowerment, while working negatively affects empowerment. Years of schooling, mothers' years of schooling, and the total number of children are significantly positively affecting women empowerment in the daughter generation, but mothers' years of schooling and the total number of children is insignificant for the mother generation.

## Conclusion

The findings support policies that promote women's education, provision of loans, financial aid, and other facilities to women because all these help empower women, and since there is the transition of empowerment from mothers to their daughters, empowering a woman also means empowering her next generation. Women also need to realize their rights, which can be done through education, and the educational policies should target the areas which are less developed. The empowerment of women serves to stimulate growth, promote good governance and reduce social inequality and poverty.

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