

RESEARCH ARTICLE



Received: 07-06-2020

Accepted: 01-07-2020

Published: 31-07-2020

Editor: Dr. Natarajan Gajendran

Citation: Malik S, Mustafa G, Anwar A, Iqbal A (2020) Assessing the Impact of Microfinance Services at Individual Level: A Comparative Study of Women Empowerment in Pakistan. Indian Journal of Science and Technology 13(27): 2700-2710. <https://doi.org/10.17485/IJST/V13i27.837>

***Corresponding author.**

G Mustafa

Assistant professor, Department of Economics and Business Administration, Division of Arts and Social Sciences, University of Education, Lahore, 54000, Punjab, Pakistan. Tel.: +92-304-4842288 gulam.mustafa@ue.edu.pk

Funding: None

Competing Interests: None

Copyright: © 2020 Malik, Mustafa, Anwar, Iqbal. This is an open access article distributed under the terms of the [Creative Commons Attribution License](https://creativecommons.org/licenses/by/4.0/), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Published By Indian Society for Education and Environment ([iSee](https://www.indjst.org/))

Assessing the Impact of Microfinance Services at Individual Level: A Comparative Study of Women Empowerment in Pakistan

Summaira Malik¹, G Mustafa^{2*}, A Anwar², A Iqbal²

¹ Assistant Professor, Department of Economics, COMSATS University Islamabad, Lahore Campus, Lahore, 54000, Punjab, Pakistan

² Assistant professor, Department of Economics and Business Administration, Division of Arts and Social Sciences, University of Education, Lahore, 54000, Punjab, Pakistan. Tel.: +92-304-4842288

Abstract

Background/Objectives: Some recent studies have empirically proved that micro-finance schemes launched for women empowerment have failed to attain their required goals as women are just used as a tool to get loans; In this context, the present study is undertaken to verify the usefulness of microcredit for women empowerment in Pakistan. **Methods/Statistical analysis:** Quantitative approach is used to assess the impact of micro-finance loan services on women economic empowerment and to see whether members of microfinance institutes are equally empowered to the non-members. For this purpose, survey was conducted in Multan District of Punjab, Pakistan. Independent sample t-test is used to estimate the difference between two independent groups of participants. In a sample size of 300 women, 200 are participants of MFI while rest of the 100 are non-participants. The data has been analyzed by using Independent-samples t-test, as it is the comparison of two different independent groups. **Findings:** The study shows that women members of micro-finance institutions (MFIs) are more empowered compared to non-members. Overall, the results show that there is a positive relationship between MFI and women economic empowerment in Multan. Women participants of MFI have greater role in decision-making, more autonomy in mobility, greater control over income and savings generated from income generating activities, more role in employment generation and increased ownership of productive assets and property than non-member MFIs. **Novelty/Applications:** The current study presents a case for a nuanced and more-sophisticated analysis of the linkages between MFIs memberships and women's empowerment. Empowerment alone may not automatically lead to empowerment, but networks and guidance also important factors that can determine the success or failure of the empowerment approach. Thus, MFIs should hold meetings with women to guide them about the proper use of loan in their business activities.

Keywords: Gender; independent-samples t- test; microfinance institutes; women-empowerment; Multan

1 Introduction

Women empowerment is a multi-dimensional and complex concept, which has different connotations in different cultures, religions, economies and even within different segments of a society. In general, it means enabling women to determine their choices of life. Since centuries, women have not only been deprived of accessing financial resources, but also restrained from education, business activity, and social inclusion. There are a number of financial or business activities through which women can develop their quality of life. Microfinance plays an important role in improving women's decision-making outside and inside the home.

Sharma⁽¹⁾ believes that empowerment instill among women sense of self-determination, personal ambitions or internal motivation so that they might opt for their choices in life. That's why, their access to social, human and other material resources is necessary to become economically empowered. According to Change (2018) microfinance industry grew at 7.6 percent during first quarter of 2018 with gross loan portfolio of PKR 224 billion. They have not only been deprived of material resources since centuries, but also social means such as know-how about business activities and education. The key exertion of micro-credit is to empower women as well as to increase the number of institutions of microfinance for female clients because females are poorer, not equally empowered as men and possess secondary status in society especially in the developing countries^(2,3).

Issue of women empowerment is highly important in Pakistan⁽⁴⁾ as 24.3% people live below the poverty line and about 40 percent of females are poor and almost 30 percent of whom are faced with social and economic exclusion. Pakistan ranked 150th among 189 countries on the Human Development Index (HDI) in gender equality (United Nations Human Development Report, 2018) and according to global gender gap report (2018) Pakistan stands on 148th position out of 149 countries. Microfinance services are much pronounced in the developed cities of Pakistan such as Karachi, Lahore, etc. A cursory look at the under-developed districts of southern Punjab shows that microfinance institutions are doing little there as compared to the developed areas and women are deprived of credit facilities⁽⁵⁾. Multan is the 3rd largest city in the Punjab province where female population is 47.52% and only 32.28% women among them are literate (Labor force survey 2016). During the past few decades, it has grown in all sectors such as industrial, education, banking, health, trade and commerce. The city has a wide spread infrastructure of roads as well as Metro Bus Service. Different microfinance institutions (MFIs) are operating in the district for women empowerment. The present study will delineate the aggregate influence of microcredit on economic empowerment of women through MFIs in Multan district.

A mix of literature, having both positive and negative relationship between microfinance and women empowerment is available. The studies⁽⁶⁾ indicating a negative relationship advocate that microfinance programs have failed to empower women because women are being used to get loans from MFIs, and later men take control of these loans for their own use. Women lack confidence, are un-trained, and lack knowledge to track economic activities. Alternate perspectives in different studies emphasize that empowerment of women varies according to social, economic, legal, and political changes and culture⁽⁷⁾. Researchers with positive relationship establish that microfinance programs have substantial impact on different extents of women empowerment. They discovered that micro-credit access empowers women by providing them control over income and savings generated through their business activities, assets and property held in their own names and increase their decision-making^(8–10). Khan et al⁽¹¹⁾ stated that women with sound economic status have more access towards the microcredit in Pakistan.

Present study investigates the issue that whether microfinance helps women participants to become economically empowered than nonparticipants, and if it does so, then to what extent. This research is an attempt to investigate the role of microfinance for small income group of women. Present study aims to highlight the role of microfinance loan in boosting women economic status in the context of Multan district in Pakistan. The objective of this research was to investigate the impact of women participation getting loan through microfinance on numerous indicators leading to women economic empowerment by employing quantitative data which has been collected from the district. Impact of microfinance loans on control of women over profits and savings, women's decision-making participation, women's ownership of property and assets, mobility of women in outside the home activities and women's employment generation is examined.

2 Previous Research

Women's access to microfinance is considered the precondition of poverty alleviation and their empowerment⁽¹²⁾. According to World Bank (2001), empowerment begins when microfinance enables individuals to develop strategic choice and provide resources to get well-being outcomes from those choices. Microcredit programs help women gain self-esteem, empowerment and get control over property. Study by Ashe and Parrott⁽²⁾ indicated 68% women, after availing microfinance facilities experienced a change in their socio-economic status and decision making power in areas which were men dominated traditionally. According to Mayoux⁽¹²⁾, microfinance has potential to increase the incomes of poor women and enable the poor segment of the population to cope with unseen events and shocks. Robinson⁽¹³⁾ studied 16 microfinance institutions the world over and concluded that microfinance services help the poor, increase their self-confidence, improve their life quality and enhance their income.

According to Microcredit Summit Campaign⁽¹⁴⁾ report (2011), across the world 14.2 million poor women have direct approach to financial services via MFIs and these women are 74% of the poorest women of the world. According to summit report (2011), women invest loans in businesses, which they own themselves. According to Robinson⁽¹³⁾ microfinance is comparatively an emerging concept in development which rose to prominence in 1970. Before 1970, the provision of financial services by governments was mainly used as credit programs for rural areas, but this had incurred very high losses, and led to loan defaults.

Zaman⁽¹⁵⁾ stated that one basic approach to developing self-confidence in women is by providing microcredit and loans in most developing countries especially in South Asia. Microfinance helps in asset creation, increase women's income gradually and to some extent reduce poor vulnerability. According to Hunt and Kasynathan⁽¹⁶⁾, microfinance initiatives for women have the important impact on female education, marriage practice, economic growth, mobility, self-respect and marriage practice. Thus, microfinance enables women to take part in decision-making at household level, provide access to economic and financial resources, provide bigger bargaining ability compared to their husbands and gives freedom of mobility. Littlefield and Rosenberg⁽¹⁷⁾ stated in their research that microfinance institutes are emerged to address the gap between the financial sector and poor people. According to them, microfinance is the key strategy to fulfill the requirements of many poor. Therefore, microfinance fulfilled social and economic objectives of poor people by providing financial services and it contributes to poverty reduction, at household and community level. Chowdhury and Bhuiya⁽¹⁸⁾ study found a significant and positive effect of microfinance projects on women empowerment. The study by Malik and Luqman⁽¹⁹⁾ indicated that the primary function of offering microfinance is to improve financial status of women that permits women to earn high income through which attainment of greater financial autonomy becomes possible. Pitt et al⁽²⁰⁾ found a positive relationship between microfinance and women's autonomy in decisions of purchasing, women's approach to financial and economic resources, greater freedom in mobility and other family decisions. They concluded that improvement of the economic status of the family due to access to microfinance source of funds robotically helps in gaining women empowerment. Thus, economic and social empowerment of women helps them to involve in decision making and helps to reduce the intimate partner violence. Microfinance as security free loans is an operative instrument to reduce the poverty, provide education, improve health, economic rights and legal rights by giving them chance for self-employment. Microfinance programs helps to recover the economic status and self-confidence of women within the household which helps to empower them. Female labor working in all over the world make contributions in economic growth and sustainable life standards of their families. Microfinance services helps in empowerment of women by enabling them in decision-making and improving general social and economic status of women. According to Chaudary and Nosheen⁽²¹⁾, empowerment of women is an important subject of policies of development especially in under-developing countries. They make their study in Southern Punjab and collected data especially from rural areas. According to the results they found the vulnerable status of women in rural areas as the women have little access to basic resources. According to Mayoux and Hartl⁽⁸⁾ women economic empowerment is low because of men authority in household decisions, low mobility and more domestic responsibilities, providing small amount of loans with quick returns. All these reasons restrained access of women to the markets. D'Espallier et al⁽²²⁾ empirically proved that women are good utilizer of loans than men and they are more responsive and successful in their enterprises. Hence, microfinance is one of the authoritative strategies in poverty mitigation and microfinance is referred as a double bottom-line company, because of its profit-seeking objective and social objective of poverty reduction. Barr⁽²³⁾ (2005) stated that microfinance alleviates poverty by contributing towards the financial development of a country. Women working as independent entrepreneurs, feel rise in their social and economic status, more respect in community and an increased self-esteem and mobility. Reed⁽¹⁴⁾ mentioned in his study that more than 3,300 microfinance foundations achieved 133 million customers in 2006. From 133 million clients, 93 million clients were at poverty stage when they used microfinance loan for the first time. From 93 million clients, 85 percent clients were females. Ngo and Wahhaj⁽⁶⁾ analyzed in their research that microfinance programs failed to empower women because women are just the source to take loans from MFIs, later on men take control of loans and women remain disempowered. Khan and Sulaiman⁽²⁴⁾ concluded in his study that microcredit has a positive effect of the awareness raising of the women as well as their involvement in the children education. Annapurna⁽²⁵⁾ (2012) stated that microfinance is evidenced to be an effective instrument in empowering women if the microfinance program is well executed and well designed. According to Annapurna's research⁽²⁵⁾, a gradual change occurred in the economic status of women who is the participant of MFIs as compared to the non-participants women of MFIs. Therefore, microfinance has made females more efficient by giving them opportunity of being independent in income earning activities, acknowledging them about their rights which in turn empowered them. Mago⁽²⁶⁾ concluded in his study that microfinance helps the underprivileged women of society to have approach to better health opportunities, income-generating activities, economic development and education. Mudaliar and Mathur⁽²⁷⁾ stated in their study that microfinance is an important instrument for the reduction of poverty and for women's economic empowerment. According to them⁽²⁷⁾, economic empowerment is the result of capability of women's self-confidence, decision making, better vision about the future and microfinance plays important role to overwhelmed manipulation and create confidence for self-reliance of economic activities.

Rahman⁽²⁸⁾ (1999) stated that 40% to 70% of loan taken by women is mostly used by their families and it develops tensions within the household instead of women empowerment. Urban women working in the manufacturing sector have also limited control on their earnings, but they have greater power regarding decision making at household level as compared to those women who do not have an income source. According to Weber and Ahmad⁽²⁹⁾ (2014) females with higher loan cycle possess high empowerment level. Results of Othman⁽³⁰⁾ (2015) supported the women microfinance activities in Malaysia to achieve economic prosperity and poverty alleviation. Murshid and Ely⁽³¹⁾ (2016) investigated the association between women empowerment and microfinance participation in contraceptive decision making in the case of Bangladesh. Joint decision making showed better empirical support in case of microfinance participants as compared to non-microfinance participants but with lower magnitude.

Wahid et al⁽³²⁾ (2017) investigated the hurdles in the way of empowerment among many organizations at local level in the case of Pakistan. Results of the study showed that elite control and political interference were major barriers for empowerment. Measures to establish community ownership were advocated by the study to achieve economic development in Pakistan. Raihan et al⁽³³⁾ stated the importance of microfinance at macro level in Bangladesh. Results concluded that microfinance is a significant factor of economic growth and rural areas were found more productive outcomes from microfinance. The study advocated the efficient labor participation for better outcomes from microfinance to boost the economic prosperity. Tahir et al⁽³⁴⁾ examined the role of Banzir Income Support Program for women empowerment at economic and social levels in Multan, Pakistan. Results showed increase in family level income but women were not much

directly beneficiaries of the funds as amounts were passed on towards the male head of the family. Some cases were found supportive where women started their businesses at local level through partnership or individual level. Dutta and Banerjee (35) analyzed that microfinance was major significant measure to reduce poverty particularly among rural women in Bangladesh. Microfinance users with better entrepreneurship capability, risk taking ability and innovative behaviors were found with early repayment and higher frequency for getting loans. Study concluded that microfinance was significant tool to overcome poverty through women empowerment.

Colom et al (36) examined the access to primary healthcare for women through microfinance institution in the case of rural Guatemala. Microfinance was found significant for improvement in healthcare facilities in rural area. Drori et al (37) stated that microfinance worked to boost women entrepreneurship through inclusive markets among 115 countries. The study concluded that institutional and organizational factors were major factors for female market participation. Cultural institutions were also found important for women empowerment.

3 Materials and Methods

3.1 Research Model

3.1.1 Hypotheses of the Study

Hypotheses of the study is given as under;

H1: Participation of women for microfinance loans causes to increase in the women’s access over profits generated from the business and savings than non-participants.

H2: Participation of women in microfinance loans results in improved decision-making participation than non-participants.

H3: Participation of women in microfinance loans causes to rise in property ownership of and assets than non-participants.

H4: Participation of women in microfinance loans causes to improvement of mobility in outside the home activities than non-participants.

H5: Participation of women in microfinance loans helps them to boost employment generation than non-participants.

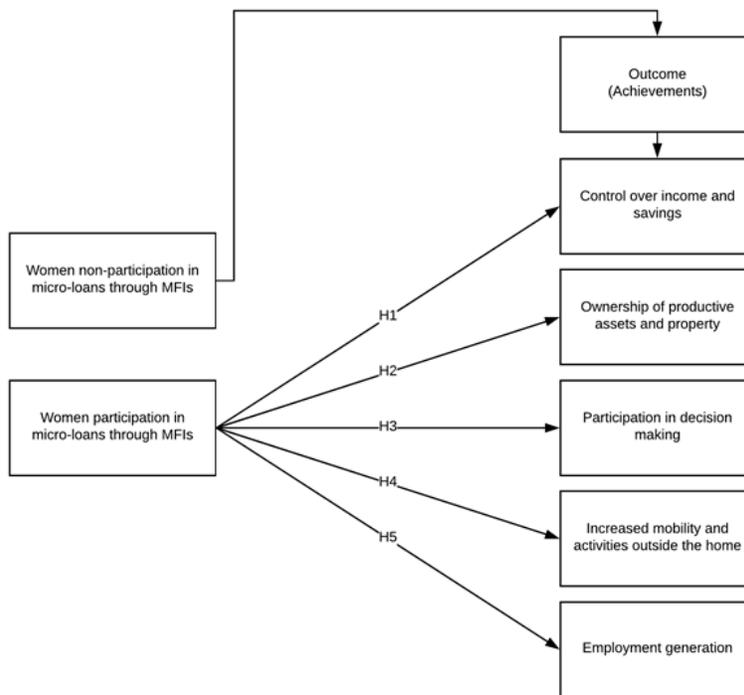


Fig 1. Research Model

Own Illustration Based on Literature Review and Hypotheses

3.1.2 Population and Sample Size

During last two decades different banking and non-banking organizations initiated women microfinance programs in Multan to uplift the status of women in this district for example NRSP bank, Banazir Income Support Program, Punjab Rural Microfinance Program. Being an emerging and growing district, Multan was chosen for empirical analysis.

In this study, two population groups are selected for research, female members of MFIs and female non-members of MFIs in Multan district. Non-members of MFIs are selected on the basis of same income groups as of female members of MFIs. Same income group mainly comprises women with income level ranging no saving to Rs. 40,000 which is further divided in subgroups of uniform interval of Rs. 10,000. This presentation of groups is with small income variations because they possess same locality and facilities. The study has used convenient sampling technique because the population is scattered. As the unit of analysis is female individuals that avail microfinance loan services from microfinance institutions and female non-members of MFIs in Multan district. The total target population is 7,000 which are female clients of MFIs. The sample size for female members of MFIs is calculated based on Yamane’s formula⁽³⁸⁾.

$$n = \frac{N}{1 + N(e)^2} \tag{1}$$

For a large number of population, Israel⁴⁴ suggested this formula for the sample calculation. By using the formula of sample size with the level of precision 7% and with a confidence level 93% the calculation from a population of 7000 came up with 198 female members. Israel⁽³⁹⁾ suggested 7% level of precision in sample selection. In this study, 7% level of precision is used. To account for the possibility, we have selected 100 female non-members with small ratio to MFI members as main focus of the study is to examine the MFI members regarding their empowerment through microfinance. All members are usually with same income level. Non-participant members were taken who had made their first visit for microfinance.

3.2 Data Collection Procedure

As described above, the total sample size is 300, of which 200 are MFI participants while rest of 100 are non-participants. We have collected data from the MFI participants at the end of every quarter when they visited MFI to pay installments. In addition, we have also made three door-to-door visits to collect data from the clients. It took three months to complete the procedure. We have also collected data from the MFI participants who have been using the facility for at least three years. For the collection of data from non-participants, we have selected those people who have same income level as of participants. To access the non-participants, there were people who visited MFI to take loan the first time. We targeted them as non-participants to collect data as they never availed microfinance loan before.

3.3 Instrument for Data Collection

Independent sample t-test is used to estimate the difference between two independent groups of participants. Three assumptions of t-test are tested which are necessary to meet. First is “no outlier” that shows that there is no extremely small or extremely large value as compare to the other values of t the variable and results confirmed absence of any outlier. Results for no outlier assumption are shown in Figure 2 . Second is “normality of data” and for this purpose independent t-test is continued by following central limit theorem. This theorem states that sufficiently large number of observations of independent variables or if the sample size gets larger, distribution will be approximately normally distributed, regardless of underlying distribution. Third assumption is homogeneity of variance which means same population variance for each group. This assumption is confirmed through Levene’s test for equality of variance for both independent groups of the study. Outcomes of this test are shown in Table 4 .

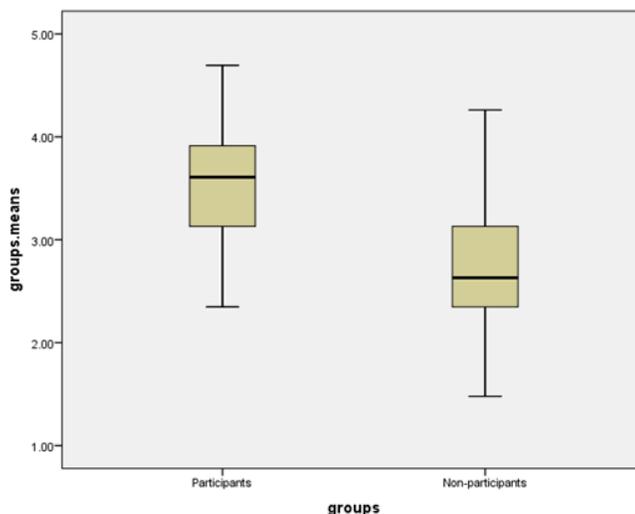


Fig 2. Outlier Detection

Own Illustration Based on Survey

4 Results and Discussion

4.1 Demographic Analysis

Analysis for demographic concerns was accomplished in order to explain the participants’ sample, who participated in our research. This research is based on the microfinance sector, so the percentage of female participants of MFI e was greater compared to the female non-participants. Total of respondents was 300, out of which 200 (66.7%) were MFI members and the number of non-member respondents was 100 (33.3%). All the 300 respondents were females. Number of 300 respondents is sufficient to analyze the research problem with 200 MFI members which are mainly focused for investigation.

Table 1. Demographic analysis

	Participants N=200		Non-Participants N=100	
	Frequency	%	Frequency	%
Age Distribution of the Participants				
18-30 years	30	15	07	07
31-40 years	98	49	34	34
41-50 years	59	30	50	50
More than 50 years	13	6	9	9
Distribution of the Respondents years in business				
Less than 5 years	99	49.5	94	94
5-10 years	61	30.5	6	6
More than 10 years	40	20	0	0
Distribution of Respondents marital status				
Married	169	85	82	82
Single	12	6	5	5
Divorced	6	3	4	4
Widow	13	6	9	9
Distribution of Respondents Educational Experience				
None	106	56.5	51	51
Primary	46	21.5	22	22
Middle-matric	38	18	18	18
Intermediate	10	4	6	6
Other	0	0	3	3
Distribution of Respondents According to Number of Family Members				
2 family members	03	1.5	0	0
3 family members	06	3	2	2
4 family members	26	13	8	8
5 family members	48	24	23	23
More than 5	117	58.5	67	67
Distribution of participants According to People Depend on their Income				
0	-	-	-	-
2	12	6	-	-
3	23	11.5	-	-
4	41	20.5	-	-
5	45	22.5	-	-
More than 5	79	39.5	-	-
Distribution of Respondents (Participants) According to Loan Amount				
20,000 - 30,000	60	30	-	-
31,000 - 40,000	103	51.5	-	-
41,000 – 50,000	26	13	-	-
Above Rs.50,000	11	5.5	-	-
Distribution of Respondents According to Saving from Capital Invested				
No Saving	0	-	70	70
Less than 10,000	95	47.5	23	23
10,000-20,000	68	34	4	4
21,000- 30,000	34	17	3	3
31,000 – 40,000	2	1	-	-

Continued on next page

Table 1 continued

More than 40,000	1	0.5	-	-
------------------	---	-----	---	---

Own Illustration Based on Survey

The majority of respondents, 44% (132) fell in the age group between 31-40; 37% (109) respondents fell in 41-50 age group, 13% (37) respondents fell in 18-38 age group, and only 6% fell in the age group between 51 and over. All the MFI participants were from businesses. 49.5% participants had less than five years of business experience, 30.5% had 5-10 years and 20% had more than 10 years. Similarly, from non-participants, 5% had less than 5 years' experience, 6% had between 5-10 years' experience, and there was no one having more than 10 years of experience.

Majority (84%) of the respondents were married, 6% were single, only 3% were divorced, and 7% were widows. More than half (54.7%) of the respondents were illiterate both from participants and non-participants, 21.7% had primary education, 18% respondents had middle/matric level of education, 4.6% were intermediate and only 1% respondents possessed a degree. Only 1% respondents had two family members, 2.7% respondents had three family members, 11.3% had four family members, 23.7% had five family members and about two-third (61.3%) had more than five family members. Only 6% participants of MFI had two dependents, 17.5% participants had three dependents, 38% participants had four dependents, 60.5% participants had five dependents and 39.5% participants had more than five family members.

30% participants received loan from MFI between Rs 20,000-30,000, about half (51.5%) of the participants received loan between Rs 31,000-40,000, 13% participants received loan between Rs 41,000-50,000 and only 5.5% participants received loan over Rs 50,000. 47.5% participants of MFI saved less than Rs 10,000, 34% participants saved Rs 10,000-20,000, 17% participants saved Rs 21,000-40,000, 1% participants saved Rs 41,000-50,000 and only 0.5% participants saved more than Rs 50,000. 70% non-participants had no saving, 23% non-participants saved less than Rs 10,000, 4% non-participants saved Rs 10,000-20,000 and only 3% non-participants saved Rs 21,000-30,000. There was no saving over Rs30,000 by non-participants.

4.2 Reliability Analysis

To conduct reliability analysis, Cronbach's alpha is calculated for all items individually. The closer Cronbach's alpha is to 1, indicates that internal consistency reliability is higher. If the value is less than 0.60 then it reflects poor reliability position, a value in the range of 0.70 is adequate, value 0.80 is good, and 0.90 value and above is finally excellent⁽⁴⁰⁾. We checked our instruments reliability, from the data collected in the testing phase. Our Cronbach's alpha value of all variables of members of MFIs came in between 0.7 and 0.9; all the separate value of alpha is cited in Table 2 .

Table 2. Reliability statistics

Variables	Cronbach's Alpha	No of items
Decision making participation	0.837	4
Increased mobility and activities outside the home	0.840	6
Control over income and Savings	0.716	5
Employment Generation	0.948	4
Ownership of productive assets and property	0.726	4
Total	0.876	23

Own Illustration Based on Survey

In Table 3 , group statistics is presented. The group sizes are not equal (N1=200 and N2=100), the participants mean is 3.5535, which is greater than the mean scoring of non-participants, i.e. 2.7504. Members and non-members have different standard deviation, which is 0.55306 and 0.58193, respectively. The mean members economic empowerment score (3.55 ± .55) is greater than mean non-members economic empowerment score (2.75 ± .58).The participants' group (N=200) is connected with increased mobility in activities outside the home with M=3.5 (S.D=.81).

Table 3. Group statistics

	Groups	N	Mean	Std. Deviation	Std. Error Mean
Groups means	Participants	200	3.5535	.55306	.03911
	Non-participants	100	2.7504	.58193	.05819
Impact on decision making	Participants	200	3.9750	.76882	.05436
	Non-participants	100	2.9475	.79637	.07964
Impact on mobility	Participants	200	3.5400	.81260	.05746
	Non-participants	100	2.8017	.57914	.05791

Continued on next page

Table 3 continued

Impact on control over saving and income	Participants	200	4.1270	.59180	.04185
	Non-participants	100	3.3460	.71625	.07163
Impact on employment generation	Participants	200	1.9288	1.29998	.09192
	Non-participants	100	1.5150	1.00367	.10037
Impact on ownership	Participants	200	4.0600	.74358	.05258
	Non-participants	100	2.9675	.85107	.08511

Own Illustration Based on Survey

By comparison, non-participants (N=100) have smaller mobility in activities outside the home as they have small M=2.80 (S.D=.58). The participants group (N=200) is connected with increased mobility in activities outside the home with M=3.5 (S.D=.81). By comparison, non-participants (N=100) have smaller mobility in activities outside the home as they have small M=2.80 (S.D=.58).The participants group (N=200) is associated with rise in the control of women over profits generated from the business and savings with M=4.13 (S.D=.59). By comparison, non-participants (N=100) have smaller mobility in activities outside the home as they have smaller M=3.34 (S.D=.72).The participants group (N=200) is associated with employment generation M=1.93 (S.D=1.30). By comparison, non-participants (N=100) have smaller mean as M=1.52 (S.D=1.00).The participants group (N=200), which is associated with an increased ownership of property and assets, has M=4.06 (S.D=.74). By comparison, non-participants (N=100) have smaller means as M=2.97 (S.D=.85).

4.3 Independent Sample t-test

This test defines the mean difference between two independent groups. To check the equality of variances, we consulted the "Sig." column presented below the Levine's Test for homogeneity of variances column as shown in Table 3. If the variances of population of both independent groups are same, then the p-value will be higher than 0.05 (p > .05), which indicates the homogeneity of variances. However, if the test gives p-value less than 0.05 (p < .05), the variances are not equal and the assumption of homogeneity of variances will be disrupted. Assumptions of t-test which include no outlier, normality and homogeneity of variance are checked and confirmed. Following graph and table show the results of outlier and independent sample test respectively.

Table 4. Independent sample t-test

		Levene's test for Equality of Variances			t-test for equality of means				
		F	Sig.	T	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference		
						Lower		Upper	
Groups means	Equal Variances assumed	0.273	0.602	11.650	0.000	0.803	0.667	0.938	
	Equal Variances not assumed			11.454	0.000	0.803	0.664	0.941	
impact on decision making	Equal Variances assumed	0.357	0.551	10.782	0.000	1.02750	0.83996	1.21504	
	Equal Variances not assumed			10.656	0.000	1.02750	0.83731	1.21769	
Impact on mobility	Equal Variances assumed	22.651	0.000	8.111	0.000	0.73833	0.559	0.917	
	Equal Variances not assumed			9.050	0.000	0.73833	0.577	0.898	
Impact on control over saving and income	Equal Variances assumed	1.818	0.179	10.029	0.000	0.781	0.627	0.934	
	Equal Variances not assumed			9.415	0.000	0.781	0.617	0.945	
Impact on employment generation	Equal Variances assumed	31.722	0.000	2.793	0.006	0.414	0.122	0.705	

Continued on next page

Table 4 continued

	Equal Variances not assumed			3.040	0.003	0.414	0.145	0.681
Impact on ownership	Equal Variances assumed	6.463	0.012	11.423	0.000	1.092	0.904	1.280
	Equal Variances not assumed			10.921	0.000	1.092	0.895	1.289

Own Illustration Based on Survey

Table 4 shows the results of non-participants microcredit impact on decision-making. The Sig (2-tailed) value is .000, which shows that participation is associated with a statistical larger mean decision-making than non-participation. Thus the results indicate that microfinance loans participation increases the decision making participation more than non-participation as $t(298)=10.78, P < 0.05$. The hypothesis “Participation in microfinance services leads to an increased mobility in activities outside the home than non-participation” is statistically significant as $t= 9.050, P<0.05$. The Sig (2-tailed) value is .000 ($P<0.05$), which indicates that participation is associated with a statistical larger mean mobility than non-participation. The results are in agreement of the previous study conducted by Mayoux and Hartl⁽⁸⁾ and Salahuddin et al⁽⁴¹⁾ who found that mobility in activities has significant impact on women empowerment. However, Salahuddin et al⁽⁴¹⁾ took population to area ratio as proxy for mobility while the present study took first-hand information through survey.

The hypothesis “Participation in microfinance loans leads to an increase in the women’s control over savings and profits generated from the business than non-participation” is statistically significant and accepted as $t=10.029, P<0.05$. The Sig (2-tailed) value is .000, which indicates that participation is associated with a statistical larger means for control over saving and income than non-participation.

Thus the hypothesis, “Participation in microfinance services helps women to boost the employment generation in Multan district than non-participation”, is statistically significant and accepted as $t(298)=3.04, P<0.05$. The Sig (2-tailed) value is .003, which shows that participation is associated with a statistical larger mean for employment generation than non-participation. The results can be supported by past studies^(33,42) where researchers found that political empowerment has positive direct impact on female economics well being and indirectly female economics environment improved by academic empowerment. Thus, Table 4 shows the difference between participant and non-participant groups ‘ownership of property and assets with mean difference 1.09. Lower row is used to analyze the results because the variance of two groups in this construct is not equal as $p < 0.05$. The Sig (2-tailed) value is .000 ($P < 0.05$), which shows that participation is associated with a statistical larger mean for ownership of property and assets than non-participation. Thus the results indicated that hypothesis, “Participation in microfinance loans leads to an increased ownership of property and assets than non-participation”, is statistically significant and alternate hypothesis is accepted as $t(298)=10.921, P < 0.05$. The results can be supported from past where Akram⁽⁴³⁾ (2017) found that ownership of assets has positive relationship with different dimension of women empowerment. Now, we need to analyze the size (magnitude) of the difference for two groups. To find the size of difference for two groups, we use means difference column in Table 5

The above results given in Table 5 explain the extent of the difference between groups mean and the statistical significance of independent-sample t-test. In our results $P < 0.05$, which means that mean difference of groups is statistically significant. There is a statistical significant difference in mean economic empowerment score between participants and non-participants, with non-participants scoring lower than participants, 0.803 (95% CI, 0.667 to 0.938) with degree of freedom (df) at 298. Group means ($p < .05$) were found with statistical difference so null hypothesis is rejected and alternate hypothesis is accepted, which states that microfinance loans participation results in improvement of economic empowerment than non-participation. The results contradict with previous study⁽⁶⁾ however, our findings are in line with past studies who found that microfinance could help woman empowerment if knowledge, networks and jobs are provided to female^(25,29,31,32,41–45). These results can be shown by graphical presentation in Figure 3.

Table 5. Cumulative results of independent samples t-test for women economic empowerment

		Levene’s test for Equality of Variances		t-test for equality of means							
Groups means		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		
									Lower	Upper	
	Equal Variances assumed	0.273	0.602	11.650	298	0.000	0.803	0.689	0.667	0.938	
	Equal Variances not assumed			11.454	189.393	0.000	0.803	0.070	0.664	0.941	

Own Illustration Based on Survey

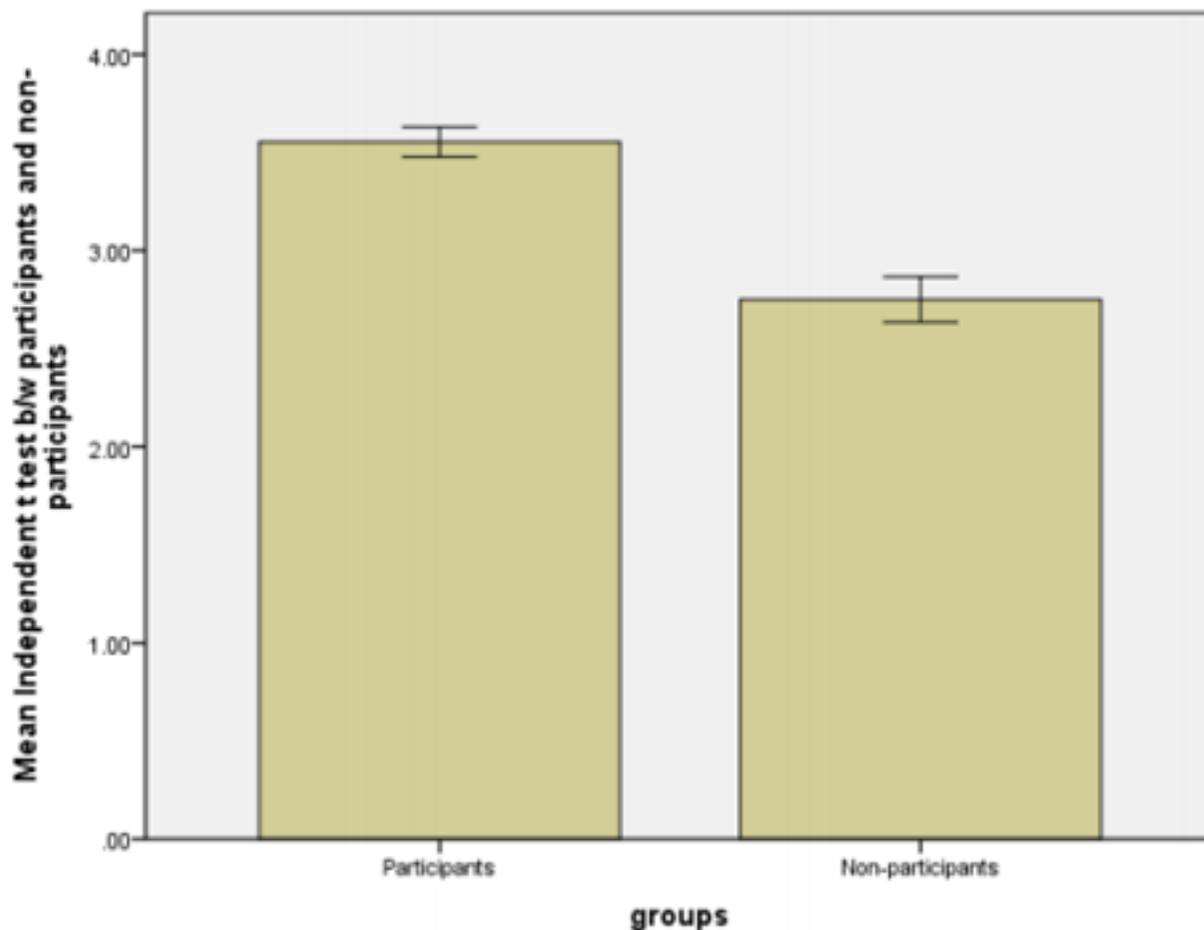


Fig 3. Mean Independent t-test between participants and counterfactual case

5 Conclusion

In Pakistan, microfinance is an evolving phenomenon and is attaining importance as an instrument of poverty reduction. Financial resources and empowerment are mostly attributed to men as a result of which women are demoralized and deprived of their due rights. The results of the study show that microfinance loan access can enable women to initiate their own income generation activity and achieve socio-economic status in the community. Based on these results, we can conclude that women can be better off by increasing their income through availing different microfinance loan programs. The results also show that women’s economic empowerment is significantly influenced by their involvement in decision-making, mobility outside the home, control over savings and income, employment generation and by ownership of productive assets and properties. In the light of above results, it is recommended that, Microfinance institutions should hold meetings with women to guide them about the proper use of loan in their business activities. Supervision of microfinance sector can lead to more credit facilities, quality growth, and expansion in funding base for MFIs and how to initiate the procedure of integrating microfinance institutions into proper financial system.

Acknowledgement

Authors acknowledge the University of Education, Lahore, COMSAT University Islamabad, Lahore for supporting the current research.

References

- 1) Sharma E. Women and politics: a case study of political empowerment of Indian women. *International Journal of Sociology and Social Policy*. 2020;40(7/8):607–626. Available from: <https://doi.org/10.1108/IJSSP-12-2019-0261>.
- 2) Mohan R, Agrawal S, Gundappa M. Atomic force microscopy and scanning electron microscopy evaluation of efficacy of scaling and root planing using magnification: A randomized controlled clinical study. *Contemporary Clinical Dentistry*. 2013;4:286–286. Available from: <https://dx.doi.org/10.4103/0976-237x.118347>.

- 3) S S, K M. Role of micro finance in women's empowerment (an empirical study in pondicherry region rural shg's). *Journal of Management and Science*. 2011;1:1–8. Available from: <https://dx.doi.org/10.26524/jms.2011.1>.
- 4) of Statistics FB. Economic Survey of Pakistan. 2018.
- 5) Rehman H, Moazzam A, Ansari N. Role of microfinance institutions in women empowerment: A case study of Akhuwat. *Pakistan South Asian Studies*. 2015;30(1):107–107.
- 6) Ngo TMP, Wahhaj Z. Microfinance and gender empowerment. *Journal of Development Economics*. 2012;99:1–12. Available from: <https://dx.doi.org/10.1016/j.jdeveco.2011.09.003>.
- 7) Cornwall A, Edwards J. Introduction: Negotiating Empowerment. *IDS Bulletin*. 2010;41:1–9. Available from: <https://dx.doi.org/10.1111/j.1759-5436.2010.00117.x>.
- 8) Mayoux L, Hartl M, International Fund for Agricultural Development. Gender and rural microfinance: Reaching and empowering women. 2009.
- 9) Kato MP, Kratzer J. Empowering women through microfinance: Evidence from Tanzania. *ACRN Journal of Entrepreneurship Perspectives*. 2013;2(1):31–59.
- 10) Swain RB, Wallentin FY. Economic or non-economic factors: What empowers women?. 2008.
- 11) Khan W, Shaorong S, Ullah I. Doing business with the poor: the rules and impact of the microfinance institutions. *Economic Research-Ekonomska Istraživanja*. 2017;30:951–963. Available from: <https://dx.doi.org/10.1080/1331677x.2017.1314790>.
- 12) Mayoux L. Tackling the Down Side: Social Capital, Women's Empowerment and Micro-Finance in Cameroon. *Development and Change*. 2001;32:435–464. Available from: <https://dx.doi.org/10.1111/1467-7660.00212>.
- 13) Robinson MS, The World Bank. The microfinance revolution: Sustainable finance for the poor.. 2001.
- 14) Reed LR. State of the microcredit summit campaign report 2011. 2011.
- 15) Zaman H, World Bank. Assessing the poverty and vulnerability impact of micro-credit in Bangladesh. 2000.
- 16) Hunt J, Kasynathan N. Reflections on microfinance and women's empowerment. *Development Bulletin*. 2002;57:71–75.
- 17) Littlefield E, Rosenberg R. Microfinance and the Poor. *Finance and development*. 2004;41(2):38–40.
- 18) Chowdhury AMR, Bhuiya A. The wider impacts of BRAC poverty alleviation programme in Bangladesh. *Journal of International Development*. 2004;16(3):369–386. Available from: <https://dx.doi.org/10.1002/jid.1083>.
- 19) Malik NH, Luqman M. Impact of Micro Credit on women empowerment: A review paper. *Pakistan Journal of Agriculture Science*. 2005;42:3–4.
- 20) Pitt MM, Khandker SR, Chowdhury OH, Millimet DL. Credit programs for the poor and the health status of children in rural bangladesh*. *International Economic Review*. 2003;44(1):87–118. Available from: <https://dx.doi.org/10.1111/1468-2354.t01-1-00063>.
- 21) Chaudhry IS, Nosheen F. The determinants of women empowerment in Southern Punjab (Pakistan): An empirical analysis. *European Journal of Social Sciences*. 2009;10(2):216–245.
- 22) D'Espallier B, Guérin I, Mersland R. Women and repayment in microfinance. *RUME-Working Paper Series (Rural Microfinance and Employment)*. 2009;2(4).
- 23) Barr MS. Microfinance and Financial Development. *Michigan Journal of International Law*. 2005;26.
- 24) Khan Z, Sulaiman J. Social and Financial Efficiency of Microfinance Institutions in Pakistan. *The Pakistan Development Review*. 2015;54:389–403. Available from: <https://dx.doi.org/10.30541/v54i4i-iiipp.389-403>.
- 25) Annapurna A. Women Empowerment through Microfinance. *International Journal for Research in Science & Advanced Technologies*. 2012;2:84–93.
- 26) Mago S. Microfinance and poverty alleviation: An empirical reflection. *Journal of Asian Finance*. 2014;1(2):5–13.
- 27) Mudaliar A, Mathur A. Women empowerment through microfinance. *International journal of Arts, humanities and management studies*. 2015;1(2):58–65.
- 28) Rahman A. Micro-credit initiatives for equitable and sustainable development: who pays? *World development*. 1999;27(1):67–82.
- 29) Weber O, Ahmad A. Empowerment Through Microfinance: The Relation Between Loan Cycle and Level of Empowerment. *World Development*. 2014;62:75–87. Available from: <https://dx.doi.org/10.1016/j.worlddev.2014.05.012>.
- 30) Othman MB. Role of women in achieving shared prosperity: An impact study of Islamic microfinance in Malaysia. *Procedia-Social and Behavioral Sciences*. 2015;211:1043–1051.
- 31) Murshid NS, Ely GE. Microfinance participation and contraceptive decision-making: results from a national sample of women in Bangladesh. *Public Health*. 2016;139:141–147. Available from: <https://dx.doi.org/10.1016/j.puhe.2016.06.019>.
- 32) Wahid A, Ahmad MS, Talib NBA, Shah IA, Tahir M, Jan FA, et al. Barriers to empowerment: Assessment of community-led local development organizations in Pakistan. *Renewable and Sustainable Energy Reviews*. 2017;74:1361–1370. Available from: <https://dx.doi.org/10.1016/j.rser.2016.11.163>.
- 33) Raihan S, Osmani SR, Khalily MAB. The macro impact of microfinance in Bangladesh: A CGE analysis. *Economic Modelling*. 2017;62:1–15. Available from: <https://dx.doi.org/10.1016/j.econmod.2017.01.002>.
- 34) Tahir MW, Kauser R, Bury M, Bhatti JS. 'Individually-led' or 'female-male partnership' models for entrepreneurship with the BISP support: The story of women's financial and social empowerment from Pakistan. In: *Women's Studies International Forum*; vol. 68. Pergamon. Elsevier BV. 2018;p. 1–10. Available from: <https://dx.doi.org/10.1016/j.wsif.2018.01.011>.
- 35) Dutta A, Banerjee S. Does microfinance impede sustainable entrepreneurial initiatives among women borrowers? Evidence from rural Bangladesh. *Journal of Rural Studies*. 2018;60:70–81. Available from: <https://dx.doi.org/10.1016/j.jrurstud.2018.03.007>.
- 36) Colom M, Austad K, Sacuj N, Larson K, Rohloff P. Expanding access to primary healthcare for women through a microfinance institution: A case study from rural Guatemala. In: and others, editor. *Healthcare*; vol. 6. Elsevier BV. 2018;p. 223–230. Available from: <https://dx.doi.org/10.1016/j.hjdsi.2017.12.003>.
- 37) Drori I, Manos R, Santacreu-Vasut E, Shenkar O, Shoham A. Language and market inclusivity for women entrepreneurship: the case of microfinance. *Journal of Business Venturing*. 2018;33(4):395–415. Available from: <https://dx.doi.org/10.1016/j.jbusvent.2018.02.002>.
- 38) Yamane T. *Statistics: An introductory analysis*. New York. Harper and Row. 1967.
- 39) Israel GD. Determining sample size, agricultural education and communication department. Florida cooperative extension service, institute of food and agricultural sciences, University of Florida. 2009.
- 40) Sekaran U, Bougie R. John Wiley & Sons. Inc. New York. 2003.
- 41) Salahuddin T, Ahmed A, Iqbal A, Asghar R. Why am I not allowed even to be born?" Measuring Social Development Using Gendered Indicators and Empowerment Evaluation. *Pakistan Journal of Social Sciences*. 2020;1(1):1–12.
- 42) Al-Qahtani MMZ, Alkhateeb TTY, Mahmood H, Abdalla MAZ, Qaralleh TJOT. The Role of the Academic and Political Empowerment of Women in Economic, Social and Managerial Empowerment: The Case of Saudi Arabia. *Economies*. 2020;8:45–45. Available from: <https://dx.doi.org/10.3390/economies8020045>.
- 43) Akram N. Women's empowerment in Pakistan: its dimensions and determinants. *Social Indicators Research*. 2018;140(2):755–75.
- 44) Syhanath T. Microfinance and Women's Empowerment: The Case of Lao PDR. 2020.
- 45) Pieters J, Klasen S. Randomization for women's economic empowerment? Lessons and limitations of randomized experiments. *World Development*. 2020;127:104820–104820. Available from: <https://dx.doi.org/10.1016/j.worlddev.2019.104820>.