THE IMPACT OF MICROFINANCE LOAN ON WOMEN'S EMPOWERMENT AND HAPPINESS IN PAKISTAN

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ABSTRACT

Women empowerment is one of the central issues in the developing countries. This study investigated the empowerment and successful stories of poor women who participated in two microfinance programs in Pakistan; namely National Rural Support Program and Khushali Bank. Previous studies have shown how women's participation in microfinance institutions can improve individual and household income. However, limited evidence exists on whether involvement in microfinance can improve the women's economic decision making empowerment, freedom of movement empowerment and life satisfaction. This study is based on household level data collected from 744 poor women of Bahawalpur division in Pakistan. The results from the Multinomial Logit Model (MLM) estimation show that the women borrowers are more empowered and satisfied than the non-borrowers. The probability of involvement in economic decision, having more freedom and happiness increases with the increase in loan size. However, marital status is found to be statistically insignificance to economic decision, while it has a positive influence on freedom of movement empowerment. Furthermore, the results also show that the probability of being happy decreases with age and marital status, but it increases with family size and empowerment. Based on the analysis, the study concludes that the level of women empowerment and satisfaction of poor women in Pakistan can be significantly improved with the involvement of Microfinance Institutions. The results suggest that higher income increases the women's ability to contribute more to the household expenditure, eventually improving their empowerment and life satisfaction. This study recommends that while making policies and allocating the budget on education, policymakers and other non-governmental organizations should focus on how these expenditures are distributed and who will be benefited from these. In addition, government and development organizations should work with greater cooperation in order to increase the women's empowerment and happiness by implementing strategies to increase the availability of more educational programs and better guidance schemes for the borrowers.

Keywords: microfinance, empowerment, happiness, satisfaction, multinomial logit model, multinomial probit model.

ABSTRAK

Pemerkasaan wanita merupakan salah satu isu utama negara sedang membangun. Kajian ini menyiasat isu pemerkasaan serta kejayaan wanita miskin yang menyertai dua program pembiayaan mikro di Pakistan, iaitu Nationa Rural Support Program dan Khushali Bank. Kajian terdahulu menunjukkan penyertaan wanita dalam pembiayaan mikro dapat meningkatkan pendapatan individu dan isi rumah. Bagaimanapun, tiada bukti yang nyata menunjukkan pembiayaan mikro dapat meningkatkan pemerkasaan dan kepuasan hidup peminjam wanita. Kajian ini adalah berdasarkan kepada data tahap isi rumah yang dikutip daripada 744 orang wanita miskin di bahagian Bahawalpur, Pakistan. Berdasarkan keputusan penganggaran Model Multinomial Logit (MLM) jelas menunjukkan bahawa peminjam wanita lebih perkasa dan berpuas hati berbanding dengan wanita yang bukan peminjam. Kebarangkalian mereka terlibat dalam keputusan ekonomi, mempunyai kebebasan dan kebahagiaan akan lebih meningkat dengan peningkatan dalam saiz pinjaman. Walau bagaimanapun, status perkahwinan didapati tidak signifikan secara statistik dengan keputusan ekonomi tetapi mempunyai pengaruh yang positif ke atas kebebasan bergerak. Tambahan pula, hasil kajian ini menunjukkan bahawa kebarangkalian wanita menjadi gembira menurun dengan peningkatan umur dan status perkahwinan, tetapi ia meningkat dengan saiz keluarga dan pemerkasaan. Berdasarkan analisis ini, kajian ini mencadangkan agar tahap pemerkasaan wanita dan kepuasan hidup wanita miskin di Pakistan ditingkatkan secara signifikan dengan penglibatan dalam institusi pembiayaan mikro. Hasil kajian ini memperakukan bahawa pendapatan yang tinggi meningkatkan keupayaan wanita untuk menyumbang lebih banyak kepada perbelanjaan isirumah dan seterusnya meningkatkan pemerkasaan serta kepuasan hidup mereka. Kajian ini mencadangkan bahawa apabila membuat polisi dan alokasi bajet pendidikan, pembuat polisi serta organisasi bukan kerajaan yang lain seharusnya fokus kepada bagaimana perbelanjaan ini diagihkan dan siapa yang memperolehi faedah ini. Tambahan pula, kerajaan dan organisasi pembangunan perlu bekerjasama dalam menangani isu pemerkasaan wanita serta kepuasan hidup dengan pelaksanaan strategi yang lebih baik seperti memperbanyakkan pinjaman dan panduan yang betul kepada peminjam.

Kata kunci: pembiayaan mikro, pemerkasaan, kebahagiaan, kepuasan, model logit multinomial, model probit multinomial.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES


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CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

In 1972 women were happier than men on an average and the median woman was as happy as a man at the 53.3rd percentile in the male distribution. By 2006, however, the median woman's happiness was less than that of the median man in 1972, while the median man in 2006 was slightly happier than his counterpart in 1972. Comparing the 2006 medians with the distribution for men in 1972, we see that the median woman in 2006 is as happy as a man at the 48.8th percentile in 1972—almost 5 percentage points below her position 34 years earlier, while the median man in 2006 is as happy as the man at the 50.7th percentile in 1972. From 1972 to 2006, women's happiness relative to men's has decreased (Stevenson and Wolfers, 2009). Stevenson and Wolfers, (2009) collected data from 12 European countries (Belgium, Denmark, France, Great Britain, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, and Germany) and found that happiness increases have been greater for men relative to women, leading to a decline in European women's happiness relative to that of European men.

Income and education has direct impact on satisfaction, since approximately 70 percent of the World's deprived are poor females, various measures have been undertaken by many stakeholders to uplift the welfare of women particularly by encouraging them to participate

in economic activities. Microfinance is one of the most important sources of financing for micro business. Women represent a significant number of borrowers from these microfinance institutions. Statistics show that out of the total number of 2,072,311 borrowers worldwide, 1,139,771 are women (Microcredit Summit Campaign Report, 2010).

Working females are not only contributing to the national income, but also play a vital role to sustain a stable living and happiness of the communities and families. Females in the developed countries play a larger role in improving the income of their countries than the females living in under developed countries like Pakistan (In developing countries like Pakistan, especially in the rural areas, females are still facing many legal barriers, socio- cultural behavior and high ratio of female illiteracy). Traditionally, females are financially dependent on males. Often women are more vulnerable members of society and therefore have been marginalized. Most of the underdeveloped and developing countries have male dominant societies that impose various restrictions on women. They neither move outdoor nor are allowed to have social contact with male members of the society (Yasmeen and Karim, 2014).

When governments start projects and planning, they involve the public through providing them an income in return of their services. The public involved in government projects are mostly male, while females are the most neglected part at both the formal and informal level. Undoubtedly, the prosperity of a country depends

on both the males and the females. However, approximately 70 % of the world's poor are females and they are living at subsistence level. The problem of poverty cannot be resolved without money. The problem is that most females do not have access to finance for business start up or to meet their needs and to overcome poverty (In the past, the resources of financing were limited, but now globally, women are being better supported). Several programs are now available for providing women with financing. Microfinance is one of the financial services that targets small borrowers especially women (Ali and Haq, 2006).

1.2 Microfinance Institutions and Women

It is supposed that if females are empowered, they can contribute to the national income of their country. To empower women, they have to be independent and they should have their own source of income by involving themselves in small scale business. However, women have no access to financing to start a small scale business. Since the problem of women's empowerment cannot be resolved without having capital, microfinance can be the leading source of financing as microfinance target women. However, there are also arguments that microfinance institutions should not give financing to women. The question is why do many microfinance institutions seem unwilling to give emphasis on women's empowerment, especially when they plan their schemes and strategies? Such thinking has faith in that empowerment takes place automatically in the result of microcredit programs. There is a fear that struggling for women empowerment shall give loss to microfinance institutions and

their administrators from smoothly making microfinance banks sustainable. This also raises the question, whether access to credit automatically leads to women's empowerment. The basic theory is that microfinance empowers women through putting capital in their hands and permitting them to work independently to generate income for their families and communities.

This economic empowerment is expected to raise self-esteem, respect, and other forms of empowerment for female beneficiaries. Involvement in successful income-generating activities ought to translate into better control and empowerment. Closer examinations prove, that this equation cannot always hold true and that complacency in these expectations could lead microfinance institutions to overlook both failures in empowerment and opportunities to empower women more profoundly. The capacity of a women to change her life through access to budgetary administrations relies upon a few variables; some of them are connected to her individual capacities and circumstance, while others rely on women's surroundings and the their status of the gathering. Control on capital is the main measurement of the complex and constantly changing strategy through which the cycles of frailty and destitution can imitate women. Women are likewise confronting disservices in informal organizations, getting to data, and different assets; they oblige help in their work and business in their lives. Just through surveying the prerequisite of women, the microfinance establishments have the capacity to build and empower them. Microfinance institution's programs are looking into ways to become financially sustainable. It

could not afford to emphasise on women's empowerment because some practitioners are unwilling to adopt women's empowerment as a central focus of their programs. They are reluctant to meddle with the effectiveness and professionalism of their monetary operations. They are compelled to admit a deliberate attention on women's empowerment can lead them towards extra exercises and can draw assets and vitality far from the fundamental business of giving budgetary administrations to the individuals who are poor in a supportable manner. There are enabling methodologies appropriate to the customary microfinance benefits that are most perfect with and no more costly than different methods for getting hierarchical efficiencies. An engaging approach generally appears among associations that are focused on prevalence and especially superb client administration (Noreen, 2011).

An alternate purpose behind the absence of thoughtfulness regarding women's empowerment in standard microfinance is that, microfinance institutions expect components of building, into their projects can put their money related maintainability degrees at risk and breaking their right to gain entrance to subsidies from major reciprocal and multilateral benefactor organization. Numerous give organizations subsidizing criteria accentuation on effort and institutional maintainability. The criteria do not remunerate programs that have the capacity to demonstrate vast and manageable effect on their customers. The impetus structures headed numerous microfinance institutions to treat women as "additional items" or "extravagances" opposed to a fundamental piece of their project objectives and outline.

Then again, a few microfinance institutions with a solid stress on empowerment keep up more noteworthy levels of operational and money related support ability. They accept that an extraordinary arrangement may be carried out to build women's empowerment even inside the demands of monetary maintainable quality. In India, working women's Forum (WWF) is completely monetarily reasonable and it offers a scope of non-monetary administrations, incorporating arranging females in the casual division to get suitable wages and working conditions. WWF additionally engages poor females through its institutional structure via preparing them to go about as wellbeing promoters and credit offers in their neighbourhoods and informal source (Noreen, 2011).

Numerous women of World Banking offshoot figure out how to maintain harmony between solid empowerment and budgetary execution principles. For instance, Asociacion Dominicana para el Desarrollo de la Mujer (ADOPEM), in the Dominican Republic, has approximately 28,000 borrowers with money related practicality proportion of 127 %. The Asociacion Dominicana para el Desarrollo de la Mujer point is to fuse women and their families in the financial and budgetary framework through the procurement of using a loan, and to reinforce the position of female business people with micro, little, and medium measured organizations, by offering advances to its customers. Asociacion Dominicana para el Desarrollo de la Mujer gives business preparing to its customers, as well as offers preparing in a scope of regions. It contains fair strategies and common society investment that is intended

to reinforce women's empowerment and authority. Moreover, Asociacion Dominicana para el Desarrollo de la Mujer helps the relationship of women in little and micro-endeavors, which gives data on preparing occasions and administrative issues. It has given a chance to women to take part in meeting expectations gatherings sorted out through the legislature on issues influencing micro-undertakings (Noreen and Khan, 2011).

Microfinance involves women in tiny businesses and other income generating activities. Their involvement is argued to bring them empowerment by earning income that leads to happiness. Happiness gives satisfaction to life and this satisfaction decreases women's stress. Happiness is a goal of individuals and nations. The above discussion argues that access to financing leads women to participate in income generating activities which leads to women's empowerment and happiness.

1.3 Problem Statement

The problem statement mainly discusses that the lack of education and finance, generate the issue of less empowerment and less satisfaction in life. However, low empowerment also leads to low satisfaction in life. Empowered and satisfied women significantly contribute to the economic development of their country through involving themselves in some sort of business activities.

The economic development of the country depends on both working male and female. Females living in developed countries contribute to their national income more than

women living in underdeveloped and developing countries by involving themselves in economic activities. In business, to buy inputs, to sale outputs, searching market for business and advertising the products require physical movement. When a woman starts business, she needs to go to different places to enhance her business. So, freedom of movement in various marketplaces is vital to permute her business.

People of Pakistan are ardent followers of patriarchal system. The foremost social training of parents is to serve and obey men in every matter, whether it's about domestic chores or serious issues of life like selection of spouse and even number of children to be born are the decisions made by male members of the family (Shareef *et al.,* 2012). Aurat Foundation (2011) also reported that women, especially living in rural areas of south Punjab, Pakistan, are still dependent on males. They are bound to stay at their homes. They do not have easy access to resources and they cannot borrow loans independently from banks. Unequal opportunities and poor socioeconomic status limit women's power to influence the allocation of the resources, decision making and investing on household, at communal and national levels (Mmtaz, 2007; Sathar and Kazi, 1997). The majority of the women in Baluchistan Province are not even allowed to avail the health facilities independently; instead they have to rely on male members of their family to see doctors (Gazdar, 2005; Pasha and Palanivel, 2003). However, economic decision making and freedom of movement are the two main issues which have been highlighted in previous studies and still require exploration (Yasmeen and Karim, 2014).

Hence, education and finance have been pointed out as key indicators of empowerment by various literatures (Malhotra *et al.*, 2002; Noreen, 2009 and Tuseef, 2011). Women in Pakistan do not passess sufficient education and finance. In Pakistan, the ratio of female literacy is less than man; the women literacy ratio of rural area is less than the women literacy ratio of urban area (Rasmus, 2001). Women in Pakistan are unable to start their own business because of lack of finance (Shabbir and Gregorio, 1996). The NCSW survey of home-based workers in Pakistan investigated that minority of women voted for home-based workers whereas majority of women voted to have loans to start their own business (Khan, 2007). Thus, there exists a need to examine the impact of education, loan size and microfinance involvement on women's empowerment.

As women's satisfaction is concerned, they are less satisfied and less happy with their family's financial situation both absolutely and relative to that of men (Stevenson and Wolfers, 2009). In Pakistan, women are desirous to have agreement with husbands on variety of matters including finances, recreational activities, visiting friends and relatives, household responsibilities etc. Disagreements lead to conflict which diminishes women's satisfaction in life (Sadiq, 2014).

In addition, Shabbir and Gregorio (1996) argue that freedom seekers in Pakistan were mostly women, who had some kind of frustration or dissatisfaction in their paid work and who wanted to start their own business in order to choose the type of work, duty

hours, work environment and the people they worked with. But most women faced financial barriers in starting their own business. The NCSW survey of home-based workers in Pakistan illustrated, that although the minority of women reported that dissatisfaction is related to low earnings and low rates in the market. When they were asked what kind of legal coverage they would like to have to improve their work conditions, minority of women voted for home-based workers while majority of women voted to have loans (Khan, 2007).

Microfinance is a kind of finance that helps women by involving them in small business. Hence, it is important to study the impact of microfinance on women's life satisfaction in Pakistan. Becchetti (2009) states that there is significant impact of microcedit on satisfaction in Italy. In case, if microfinance programs have impact on women's life satisfaction in Pakistan, the government should actively promote microfinance programs among the women throughout the country. On the other hand, if microfinance programs do not have impact on women's life satisfaction then government should give less priority to it.

Bandyopadhyay *et al.,* (2011) and Becchetti (2009) identify that education and microfinance has a positive impact on happiness. Moreover, Stevenson and Wolfers (2009) state that education has been rising throughout the period and higher education is associated with happiness. In Pakistan, the men enrolment is encouraging while women have less education than man (Nasir, 2002). Shabbir and Gregorio (1996)

argue that finance has a link with satisfaction. Sadiq (2014) states that empowerment and finance has relationship with satisfaction. Ali and Haq (2006) recommend that further research should examine the impact of education and decision making on Pakistani women's happiness. However, this researcher did not find any study on the effect of overall women empowerment on women's satisfaction. Consequently, in the light of above discussion it could be said that there is a need to probe the impact of microfinance, empowerment and education on women's life satisfaction.

Furthermore, educated women have more freedom than uneducated women, as they can read and write and have awareness about various aspects of life. So, they can utilize the finance in business in a better way and this can motivate them to increase the level of empowerment and satisfaction in their lives. Thus, it is argued that if educated women borrow microcredit, they can earn more by running their own business and might be more empowered and happier as compared to those who are less educated. So, there is possibility that the effect of microfinance on women's happiness and empowerment also depends on education of women (Yasmeen and Kareem, 2014). Therefore, it is essential to analyze the impact of interaction term between microfinance and education on women's empowerment and satisfaction.

Shabbir and Gregorio (1996) stated that women play key role in development of society and country however, most of the research is done on the women in the West; Ali and Haq (2006) focused that Pakistani society differs from other societies, in

particular to the western society and hence the concept of 'autonomy' in bringing about 'happiness' in the lives of Pakistani women yields different effects than in other societies. So, there is need to study on women in Pakistan. Now-a-days women empowerment is one of the most debatable issues in the development circles. For the last 63 years, Government of Pakistan has failed to implement those laws. So, women are still the most affected and helpless members of this society. Although various political governments of Pakistan had taken some steps towards women's empowerment but it is utilized by very small proportion of urban women and rural women are still living in a miserable condition (Shareef et al, 2012). There is need to conduct a research on women's empowerment and satisfaction in Cholistan Bahawalpur, Pakistan.

Furthermore, although there are studies that analyze the impact of microfinance on satisfaction, it is not clear what criteria have been used to measure the satisfaction level of an individual. Economists say that the question should express in the recent days to measure happiness, like "taken all together, how you would say things are these days" (Oswald, 2012). Kahneman and Krueger (2006) stated that when individuals are asked to evaluate their experiences as a whole and record their rate on scale. Such a retrospective report can be thought of as representing the respondents' remembered utility. The evaluation of remembered utility requires the individual to recall a stream of experiences and to aggregate them in some way. Ideally, one would hope that the individual who reports his or her overall remembered utility for a period

performs the task of summing momentary utilities over time that Edgeworth had in mind. This is not the case; numerous studies have related individuals' retrospective evaluations of an experience to their record of real-time reports. Although retrospective evaluations are related to the real-time reports people are generally correct in classifying a past episode as pleasant or awful retrospective reports are also susceptible to systematic biases.

Bertrand and Mullainathan (2001) expresses that individuals may exaggerate their happiness level, keeping in mind the end goal to keep up their self-regard over the questioner, whilst situational factors, for example, mind-set and climate may influence their reactions at the time of the study, in this way, pose the question, "Now a day are you". So it is important to use the real time measurement to evaluate the life satisfaction.

Bechti (2010) examines the impact of microfinance clients on satisfaction, but he didn't report that the measured satisfaction in real time. However, Kahneman and Krueger (2006) opine that if respondent's feelings are measured in real time, the possibility of accurate answer will be high because of the low relapse of memory but when an individual is asked to tell about his feelings in general, there exists a chance of memory relapse which can result in wrong estimations and conclusion. Hence, the findings of the study would be suspicious and this could misguide the policy makers (Kareem, 2014).

1.4 Research Questions

On the basis of the problem statement, several questions arise as follows:

1 What is the impact of microfinance on women's empowerment (based on the two dimensions, economic decision making empowerment and freedom of movement empowerment) in Bahawalpur, Punjab, Pakistan?

2. What is the impact of microfinance on women's life satisfaction in Bahawalpur, Punjab, Pakistan?

3. Does the effect of microfinance on the women's empowerment depend on education?

4. Does the effect of microfinance on women's satisfaction depends on education?

5. What is the impact of women empowerment on women's satisfaction in Bahawalpur, Punjab, Pakistan?

1.5 Objective of Study

The general objective of this study is to investigate the impact of microfinance on women empowerment and happiness in Bahawalpur, Punjab, Pakistan. The Specific objectives are as follows:

1. To examine the impact of microfinance on women's empowerment (based on two dimensions; economic decision making empowerment and freedom of movement empowerment) in Bahawalpur, Punjab, Pakistan.

2. To examine the impact of microfinance on women's life satisfaction in Punjab, Pakistan.

3. To determine whether the effect of microfinance on women's empowerment depends on education.

4. To determine whether the effect of microfinance on women's life satisfaction depends on education.

5. To determine the impact of women empowerment on women's life satisfaction in Bahawalpur, Punjab, Pakistan.

1.6 Significance of the Study

Women empowerment and happiness are indicators of development. Microfinance institutions (MFIs) are working hard to increase the happiness and empowerment of women in Pakistan. The significance of the study could be conceived as follows:

1.6.1 Significance to the Literature

There are several issues that have been given less attention in the previous studies; this study plays a significant role by examining those issues, which are discussed as follows. First, there are only two studies that examine the impact of microfinance on woman's happiness (Bandyopadhyay *et al.*, 2011; Becchetti, 2009). Bandyopadhyay *et al.* (2011) highlights the impact of microfinance on Gross National Happiness and Standard of living while Becchetti (2009) studied the impact of microfinance on overall self-esteem, dignity, social recognition, and through it, life satisfaction. However, there are several issues with these studies. Both the above mentioned studies (Bandyopadhyay *et al.*, 2011 and Becchetti, 2009) do not differentiate the impact of microfinance institution on happiness between males and females while this study adds to the literature by analaysing the impact of microfinance on women's happiness.

Ali and Haq (2006) discuss that it is generally believed that "autonomy" brings happiness and satisfaction in women's lives. In this study we examine whether or not the established autonomy indicators are a source of "happiness" for women. By using

the nationally representative data, only two indicators, i.e., “women’s education” and “decision-making authority”, prove to be important factors in finding “very happy” status in women’s life. This study recommends that future researcher should examine the automomy that bring happiness. This study is a humble effort in that direction by including overall women empowerment as one of the independent variables in explaining satisfaction.

Furthermore, this study contributes by including the interaction term between microfinance variable and education as one of the independent variable to examine whether the effect of microfinance on women’s empowerment and satisfaction depends on level of education.

Becchetti (2009) focus on analyzing the impact of microcredit on satisfaction, but it doesn’t mention clearly what measurement has been used in the questionnaire to measure the satisfaction level of the individual. It is important to measure satisfaction correctly as the economists are too much restricted about questions used in survey to measure satisfaction level (determinant of happiness of life). In measuring happiness, economists do not believe on such question “do you feel you are satisfied with your life”. Economists say the question should express in the recent days to measure happiness, like “taken all together, how you would say things are these days” (Oswald, 2012). Csikszentmihalyi (1990) states that measurement of well being and happiness should be in real time as well as in survey form. The Experience Sampling

Method needs members to convey a handheld computer that prompts them ordinarily amid the course of the day (or days) to answer a set of inquiries punctually". Bertrand and Mullainathan (2001) expresses that individuals may exaggerate their happiness level keeping in mind the end goal to keep up their self-regard over the questioner, whilst situational factors, for example, mind-set and climate may influence their reactions at the time of the study in this way, pose the question, "Now a day are you". However, a researcher that use good model to estimate the effect, but did not measure the variable and questions in the questionnaire as economist suggest, will produce findings that can be suspicious. This study contributes by following the method of asking questions in the questionnaire as it is recommended by the economists to measure the happiness of life. So, this study contributes by measuring happiness in real time.

1.6.2 Practical Significance

This study examines the impact of socioeconomic factors on empowerment and happiness in Pakistan. This information can help policy makers and MFI's stakeholders in developing better strategies and policies for improving the quality of participation in micro-credit programs. Hence, this study helps to stimulate more effective implementation of strategies for improvement of the happiness and empowerment of women not only in Pakistan but also in other developing countries.

According to UNDP's Human Development Report (2006) Gender Equality Measure (GEM) for South Asia shows the lowest value (0.235) among all the regions of the world. Furthermore, as per Gender Development Index (GDI), Pakistan has been noted the poorest (0.179) among South Asian Countries where the average index is 0.226 (MHHDC, 2005). According to UNDP report of 2007-08, the HDI for Pakistan is 0.551, which ranks Pakistan on 136th out of 177 countries (Chaudhry and Nosheen, 2009). Shabbir and Gregorio (1996) stated that women play key role in society and country development but most of the research is done on the women in west, Ali and Haq (2006) stated that Pakistani society differs from other societies, in particular the western society and hence the concept of 'autonomy' in bringing about 'happiness' in the lives of Pakistani women yields different effects than in other societies. Thus, this study played a significant role by studying on women in Pakistan. However, the present study intends to resolve the issue of academic interest as well an understanding and appreciation of policy makers regarding the impact of microfinance on women's empowerment and their happiness in the Cholistan Bahawalpur of Punjab, Pakistan.

1.7 Overview of Microfinance in Pakistan

Microfinance institutions aim to involve women in micro businesses and other income generating activities. Microfinance institutions are focusing on women also by providing them financing to make them self-reliant. According to a survey by the Special Unit for Microfinance of the United Nations Capital Development Fund

(2001) out of almost 29 microfinance institutions' customers that exist worldwide, about 60% of these institutions' clients are women.

1.7.1 Number and Legal Status of MFIs in Pakistan

The Pakistan Microfinance Network (PMN) evolved in late 1997 from an informal effort of several national attendees of the Microcredit Conference in February 1997. Eight microfinance institutions are working under the State Bank of Pakistan (Microfinance Review of Pakistan, 2011). The detail of legal status and total number of borrowers of microfinance institutions in Pakistan are shown in Table 1.1.

Microfinance banks are commercial banks that were licensed and prudentially regulated by the central bank to specifically offer microfinance services. In 2001, the microfinance institutions ordinance was passed and microfinance banks were licensed under the central bank.

Table 1.1

Legal status and total number of borrowers of microfinance institutions in Pakistan

Microfinance institutions in Pakistan	**Borrowers (June 2010) (PKR In million)**	**Legal Status**
Khushhali Bank	389,383	
The First Microfinance Bank	225,204	
Tameer Microfinance Bank	94,211	
Network Microfinance Bank	6,224	
Pak Oman MF	8,113	MFI Ordinance 2001, BCO
Kashf Bank	14,194	MFI Ordinance 2001, BCO
NRSP Bank	-	
Rozgar Microfinance Bank	14	
Kashf Foundation	323,864	
Akhuwat	20,158	Society Act 1860

Table 1.1 *(Continued)*

Microfinance institutions in Pakistan	Borrowers (June 2010) (PKR In million)	Legal Status
Asasah	27,414	Companies Ordinance, 1984 Section 42 (non-profit)
ASA	46,478	Companies Ordinance, 1984 Section 32
Buksh Foundation	400	Companies Ordinance, 1984 Section 42 (non-profit)
Community Support Concern	11,975	Society Act 1860
Development Action for Mobilization and Emancipation	46,478	Society Act 1860

Table 1.1 *(Continued)*

Microfinance institutions in Pakistan	Borrowers (June 2010) (PKR In million)	Legal Status
Sarhad Rural Support Program	3,533	Companies Ordinance, 1984, Section 42
Thardeep Rural Development Program	31,467	Society Act 1860
BRAC	70,521	Companies Ordinance, 1984
Sindh Agricultural and Forestry Workers Cooperative Organization	24,800	Societies Act, 1860
Centre for Women Cooperative Development	11,713	Social Welfare 1961
Rural Community Development Society	17,638	Society Act 1860
Sungi Development Foundation	5,335	Society Act 1860
Bank of Khyber	-	BCO, 1962
Jinnah Welfare Society	13,091	Society Act 1860
ORIX Leasing Pakistan	70,521	Companies Ordinance, 1984-NBFC

Source: *Microfinance Review of Pakistan (2011)*

As a result, many institutions, whether large or small are providing microfinance. From the date of microfinance banks were established in Pakistan, both state bank of Pakistan and governments are trying to empower women. All the microfinance institutions have been financing women in business. According to the Microfinance Review of Pakistan (2011) total member of active women borrowers was 205,751. Table 1.2 shows the total numbers of women borrowers in various microfinance institutions in Pakistan.

Table 1.2
Number of women borrowers in various microfinance banks in Pakistan 2011

Number of borrowers	**KBL**	**TMFB**	**POMB**	**FMB**	**KMB**	**NRSP-B**	**Sub**
Active borrowers	352,962	132,728	6,569	119,204	20,014	101,870	73337
Active women borrowers	111,195	46,899	1,889	39,884	588	5,296	20571
Proportion of active women borrowers (%)	31.5%	35.3%	28.8%	33.5%	2.9%	5.2%	28.1%

Source: *Microfinance Review of Pakistan (2011)*

According to the Strategic Framework for Sustainable Microfinance in Pakistan (2011) Khushhali Bank Limited is playing an important role in empowering the women. The total numbers of active borrowers of Khushhali bank are 352,962 with 31.52 percent proportion of active women borrowers. The total numbers of active

borrowers of the National Rural Support Program are 101,870 with 55.2 to proportion of active women borrowers.

1.7.2 Proportion of Active Women Borrowers in Pakistan by Years

As microfinance institutions target women, it is important to look whether there is any increase in the number of women a borrower. Table 1.3 presents statistic on women borrowers from year 2007 to 2011.

Table 1.3
Proportion of active women borrowers of microfinance in Pakistan

No of borrowers	**2007**	**2008**	**2009**	**2010**	**2011**
Total Active Borrowers	1,267182	1,695421	1,409657	1,567355	1661902
Active Women Borrowers	640,868	803,795	643,392	811,520	917,058
Years	2007	2008	2009	2010	2011
Proportion of Active Women Borrowers (%)	50.6%	47.4%	45.6%	51.8%	55.2%

Source: *Microfinance Review of Pakistan (2011)*

From Table 1.3 we can see that the active women borrowers in 2007 were 640,868 out of total 1,267,182 active borrowers. In 2008, the number increased to 803,795 out of total 1,695,421 active borrowers (Although the percentage of women borrowers decreases to 47.42 percent). In 2009, the number was reduced to 643,392 out of total 1,409,657 active borrowers. However, in 2010, the numbers increased sharply to 811,520 out of total 1,567,355 active borrowers. In 2011, the number was further

increased to 917,058 out of total 1,661,902 active borrowers (The percentage of women borrowers also increased to 55.20 percent).

1.7.3 Women Status in Pakistan

The status of women in Pakistan, according to Roomi and Parrott (2008) is a great obstacle for the progress of female business. A want of admittance for females to wealth, property, trade locations, information technology, exercise, and active support adding to absent inspiration by male family members in a male-controlled society, partial spatial agility, and a lack of public principal in Pakistan is recognised by them. Hausmann, Tyson and Zahidi (2008) state that Pakistan ranks 134th out of 135 republics with deference to sex prejudice. The economy of Pakistan is grounded in cultivation and fifty one percent of females live in country zones; Muhammad, Shaheen, Naqvi, and Zehra (2012) added that the majority of women are employed at farms or as domestic help (Sathar and Kazi, 2000).

However, formally females deserve the right to individualize property, it is generally hereditary property by male children and therefore the right to use to property for females is always limited (Agarwal, 1994). In twenty thousand and twelve the work force contribution of females in Pakistan was twenty four per cent as World Bank (2014) reported it then put the country on one hundred seventy two position out of one hundred eighty three globally. Agreeing to the Economic Survey of Pakistan 2012–2013 "Ministry of Finance of the Government of Pakistan, 2013" the total rural

women literateness percentage is thirty five per cent comparing to a man literateness percentage of sixty four per cent. Country literateness is too worse comparing to the usual women literateness in Pakistan (forty seven percent). Till now, gender effects the right of entry to schooling and service in country surroundings. Society of Obstetricians and Gynaecologists of Pakistan (2009) examines that the mixture of a little approachability to health awearness and sex disparity causes a low admittance to women healthiness attention consequential to a greater death ratio among womens.

Additionally, lively contribution of rustic females in Pakistan is stuck owing to partial contribution in the personnel, immovability, local stress, earnings discrepancy, and the depict of supervisory prospects (Hasan, 2012). Henceforth, researches indicate that females' freedom of movement is restricted in Pakistan. Mumtaz and Salway (2005) find, for instance, that only eighteen percent of their candidates have toured unaccompanied throughout a month prior to be interviewed. An additional guage of the position of females in Pakistan is, use of strength against womenfolk, a huge difficulty in South Asian republics and in Pakistan (Niaz, 2003).

1.7.4 Empowerment of Women in Pakistan Policies and Steps

The rulers in Pakistan are chasing after the millennium growth objectives. Females authorization plans related to schooling are significant. Subsequently, government plans struggle to guarantee that by 2015 all children, autonomy of sex, will be capable to accomplish primary education. Then, the National Education Policy devices for

removing sex inequality in schooling at all stages until two thousand fifteen hundred (Ministry of Finance of the Government of Pakistan, 2013) and consequently launched an education and training ministry. Further The Daily Times (2012) reports the strategies to support females and authorization are an enterprise for affording state property to property less females, an income support program which is pool for economic goods such as microfinance, insurance and grants working out of females in country employments, and support them in promotion of their products. Microfinance and females authorization in Pakistan were majorly encouraged in the 1990's and was structured by the State Bank of Pakistan.

In 2012–13 the microfinance policy mixmarket calculated twenty eight microfinance organisations in Pakistan. In October two thousand thirteen they attended 2.7 million debtors with a total credit sum of USD 483 million (www.mixmarket.org). The biggest microfinance organizations in Pakistan with mortgage groups greater than USD 35 million are Kushhali Bank, TMFB, NRSP, FMFB Pakistan and Kashf Foundation. The typical proportion of women mortgagors in the mortgage portfolios of Pakistani microfinance organizations in 2012–13 was sixty three percent. Only eight percent of the Pakistani microfinance organizations provide females with loan. Looking to mixmarket.orgs, the remarkable among them is Khushali Bank and Kashf Foundation.

1.7.5 Aim of Microfinance Institutions to Empower Women

According to the Social Performance Report on Microfinance of Pakistan (2009) the mission statement of MFPs clearly expresses that microfinance is a double bottom line industry. Nearly all organizations have some social concepts built into their mission and there are common themes across them. Reducing poverty, expanding access to finance, empowerment of communities and women, improvements in the socioeconomic conditions of lower income households and expanding opportunities emerge as the most popular social objectives. Themes of poverty alleviation, empowerment of women 'marginalized' and increasing economic opportunities emerged as more common amongst the non-bank MFPs, particularly the multidimensional organizations. Social mobilization and organizing the poor is a common goal of all rural support programs to support poor women in rural areas. A focus on women is quite common in the sector as well. The most common objective is development of existing businesses, with 19 of the 21 institutions reporting this as one of their main objectives. This is closely followed by poverty reduction and focusing on women by financing them, with 17 MFPs citing each of these as one of their aims.

1.8 Scope of the Study

Pakistan is administratively divided into four provinces, Punjab, Sindh, Balochistan and Khyber Pakhtunkhwa. There are five desert areas in Pakistan, three are in Punjab province (Cholistan, Indus Valley Desert and Thal), one (Thar) is in Sindh province and one (Kharan Desert) is located in Northeast Baluchistan Province (Socio-

economic and Development Profile of Pakistan, 2012). This study targets only Southern Punjab and selects Cholistan Bahawalpur (Deseart) of Punjab region randomly from the two desert areas of Southern Punjab. Punjab province is the largest province of Pakistan in terms of population with 53.7 percent of the country's total population. Punjab is home to the Punjabis and various other groups. The main languages of Punjab are Punjabi, Urdu and Siraiki. The detailed information about the area and population is given in Table 1.4 while Figure 1.1 shows the location of Punjab province in Pakistan. Figure 1.2 shows the map of Punjab province with its main cities. Primary data of the present study is collected from the Cholistan Bhawalpur of Punjab.

Table 1.4
Population and area of provinces in Pakistan

Province	**Population**	**Area (km)**	**Deserts**
Punjab	53.7%	23.3%	Cholistan, Thal and The Indus Valley Desert
Khyber Pakhtunkhwa	12.9%	8.5%	There is no desert in Khyber Pakhtunkhwa
Sindh	22.2%	16.0%	Thar Desert
Balochistan	4.8%	39.3%	The Kharan Desert

This study is conducted on women living in Cholistan Bahawalpur, Punjab, Pakistan. The primary data is collected from both types of women (i) who are involved in microfinance and (ii) who are not involved in microfinance. The women clients of

micro-finance (NRSP and KB institutions) age 14 years and above are selected as respondent.

Figure 1.1
Map of Punjab Province, Pakistan

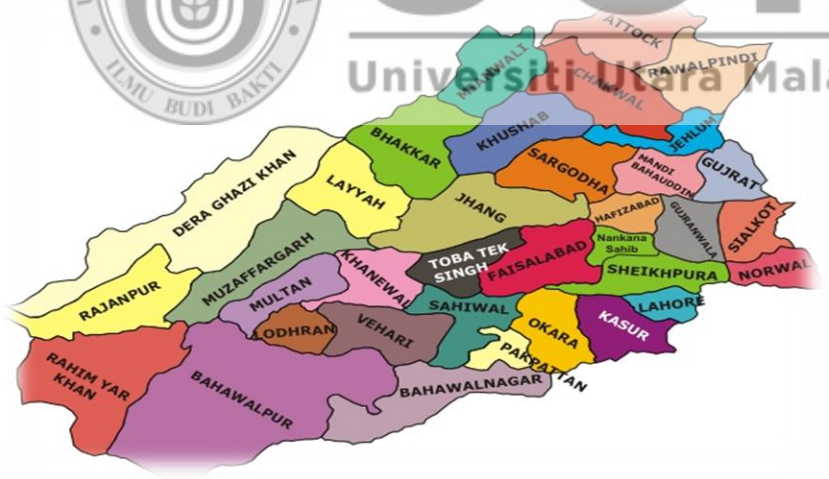

Figure 1.2
Map of Cities of Punjab, Pakistan

1.9 Organization of the Thesis

The thesis is organized as follows. Chapter one, provides the introduction of the study. Chapter two reviews the basic concepts of women empowerment and happiness and the factors affecting empowerment and happiness particularly the effectiveness of microfinance. In Chapter three, the methodology of studying the impact of microfinance on women's empowerment and their happiness is presented and assessed. The empirical model, study approach, measurement of variables, hypotheses of the study, data collection strategies, survey instrument, preliminary test, statistical and econometric analysis are discussed in that chapter. The results of the analysis are presented in Chapter four. The summary of the research and discussion of the results and implication of the study is taken up in Chapter five.

CHAPTER TWO

REVIEW OF THE LITERATURE

2.1 Introduction

This chapter synthesizes a broad review of previous literature pertaining to the impact of microfinance on women's empowerment and happiness. The idea of women's empowerment has long been legitimized through the international development agencies. What essentially comprises empowerment and how it can be measured have been widely discussed (Malhotra, Schuler and Boender, 2002). Since there are many ways to measure empowerment, researchers have to be careful in measuring empowerment (Handy and Kassam, 2004).

The literature review is organized into five sections. The first section deliberates the concept of women's empowerment and happiness. It also discusses the theories on women's empowerment and happiness. The second section explains and discusses the commonly used dimensions of women's empowerment and paradigm of microfinance institution towards women's empowerment. The third section discusses methods of measurement of women's empowerment and happiness. The fourth section deliberates the literature on the impact of microfinance on women's empowerment and happiness and other factors affecting women's empowerment and happiness. Finally, the fifth section presents some gaps in the literature.

2.2 Concept of Women's Empowerment and Happiness

Empowerment means "to give power to the powerless" or “giving the authority to somebody". More broadly, it refers to the increase in the decision making, political, social, spiritual, and economic strength of individual, communities and nations. It also involves developing the confidence of men and women’s own capabilities. Women empowerment is a dynamic multi-dimensional procedure that supports women to recognize their power and complete their identity in all spheres of their lives. Her participation in decision making increases her worthy living (Batliwala, 1995). Definitions of female empowerment contain several references like the freedom to make decisions, expansion of choice and taking actions essential to shaping life outcomes (Malhotra and Schuler, 2002). Krishna (2003) describes that empowerment by nature is an outcome or process.

2.2.1 Concept of Women's Empowerment

Empowerment is a complex idea that develops its dimensions as a part of administration and in other social sciences subjects (Fetterman, 1994). By and large, empowerment can be seen in social manners, characterizing empowerment as a control over others or independence of oneself and predominantly as a subjective recognition. A second method for characterizing empowerment is a motivational pyramid that concentrates on individual’s anticipation, respect, attainment of power and needs which fulfill his current state of force (Conger and Kanungo, 1988). In more extensive organizational perspective, empowerment is referred as empowering

instead of designating. Enabling an individual means empowering him to attain certain objectives, for example, earning enough income to fulfill domestic and basic needs which are requirement of his family members. Mostly empowerment is seen as a multidimensional idea that comprises more than one variable (Ali and Hatta, 2012). Narayan (2005) characterizes empowerment as a development of advantages and abilities of impoverished person to participate in activities, arrange with conditions, avail the facilities, control the power and consider responsibilities which are provided by financial institutions. In any case Narayan's definition, it ought to be identified that families, neighbors, or different groups are normally subsumed under microfinance institutions too because empowerment is frequently considered relating the connections of these groups. Indicators of empowerment regularly gain control over assets, support in household affairs and group decision making, mobility in the circle general society, worthy and adequate emotions of oneself and better treatment at home in group (Kabeer, 2001; Noponen, 2003). Khan and Noreen (2012) utilize a five-component model of empowerment including youngster's welfare, instruction, choice of companion of youngsters, purchasing from fundamental merchandise, and choice of household funds. This model is like Nader's model (2008) who included kids' training, income, possessions, exchange of welfare, and coordination in the gang. These multidimensional ideas mostly concentrate on the social measures of empowerment. Different experts, however, focus on the budgetary figures of empowerment. Ismail and Hossain (2013) considered empowerment the increment of

income and its utilization, the diminishment of defenselessness and reduction of destitution, promotion of wellbeing, provision of security, and kids' education.

Rather than the ideas stated above which concentrate on individual's empowerment, Muhammad *et al*. (2012) concluded empowerment as three components i.e. access of women's employment, their education and their possessions. Some supporters of empowerment concentrate on individuals but on the circumstances of individuals (women) in the general public, utilizing publically accessible information for their exploration. Different studies, particularly, which discuss the significant force that differs between women and men focus on intra-household relations as the primary variable for measuring empowerment (Kabeer, 2001). These kind of investigations typically dissect the relations between husband and wife or among the women of groups and towns. Few studies show that the consideration of men regarding the entrepreneurial exercises of women may be positive for both women's empowerment and their income and there would be no possibility of clashes between husband and wife (Khan and Noree, 2012; Rai and Ravi, 2011). In the light of the discussion stated above on empowerment, it can be concluded that there are monetary and non-monetry issues related to empowerment. Budgetary empowerment indicators are the use of the credit (Khan and Noree, 2012) household used errands (Kabeer, 2001; Schuler and Rottach, 2010) income and choice of income (Bhuiyan *et al.,* 2013) equivalent interest of the resource allocation (Muhammad *et al.,* 2012) and reserve funds (Khan

and Noree, 2012). Malhotra and Schuler (2005) however, plainly acknowledges that interactions at different levels ought to be considered.

Development goal No. 3 of the United Nations millennium is "promote gender equality and women empowerment". Empowerment is explained as the procedures through which female takes control through expansion of their choices and ownership of their lives. When a woman has ability to control her destiny, this is known as women's empowerment (Kabeer, 2005). Since a large proportion of the population is women, their empowerment is a major portion of growth and development goal (The Millennium Development Report, 2006).

The term empowerment refers to self-reliance and self-respect to enable a person to cope up with the potential blessed by God. Moreover, it is also stated that empowerment is about change, choice and power. Empowerment is also considered as a process of change by which individuals or groups can have the power to make a difference in their lives (Cheston and Kuhn, 2002).

Empowerment is defined as a process through which one can transform their self-perceptions-equivalent to alchemy that visibly transforms gender roles. Empowerment involves change at three broad levels; within the household, within the community, and at institutional or policy-making level (Zafar, 2002). According to Rowlands (1995) the definition of empowerment means giving power to powerless people. It is also considered that when people empower them to participate in economic decision

making. An individual is empowered when he/she has the right to make a choice in life and to control the direction of change by having the ability to control on material and non-material resources. Power is termed as the root of the empowerment and it might operate in different ways (Oxaal and Baden, 1997).

Power intimates a relationship of domination/subordination. It relates to decision making authority to resolve any problems. An individual surely having the power if he/she can influence the values, attitudes, behaviors and resources that govern social relations at both public and private levels. Empowerments of women possess to identify power of a woman (Oxaal and Baden, 1997). Empowerment is usually associated with women because evidences of the past concluded that they have not been given access to resources like credit, property and money. Furthermore, they do not have access to the basic social resources like education and bases of common business at home (Zafar, 2002). Merely access to resources doesn't mean that woman is empowered until they have complete authority to use these resources to achieve their goals. Empowering a woman means she can use resources exactly according to her choice in regards to her purpose of utilization. A woman who is not allowed to make any decision or even to give any opinion throughout her life, always make her lack the ability to take decisions, to define some goals or to perform them actively. When she has been deprived throughout her life, the deficiency becomes part of her life even when she is empowered.

Empowering the woman as an individual increases the opportunities so that they can be productive for the nation and improve their status as a financial support of family. On the other hand, lack of empowerment slows down economic and political development. Poverty itself is a hurdle in empowerment when it is difficult to meet basic needs of people (Skarlatos, 2004). Usually, around the globe, cultures have different dimensions. The dominant culture is one of those dimensions according to which norms and values has affected male as the most responsible part of society. It is the responsibility of the male to protect and provide facility to his housemates, and make women dependent on him. Man has been empowered to have full control of household resources. As man gets more dominating it becomes a threat to the rights of a woman. Generally, women are more vulnerable to poverty due to their economic, social, cultural status, caste, ethnic and religious values (Kabeer, 2005).

The World Bank has also identified empowerment as a primary development goal and a key element to reduce poverty (Malhotra *et.al.*, 2000). The promotion of women's empowerment as a development goal is based on the dual argument that social justice is an important aspect of human welfare and is intrinsically worth pursuing. However, there is no rigorous method for measuring and tracking changes in levels of empowerment. Therefore, for the international development community, it is difficult to ensure that their efforts regarding empowering women are having any worth or getting inane (Malhotra *et.al.*, 2000).

Women should be empowered in the sense that they should have the rights to take decision regarding reproductive, sexual and health issues. To realize the women's individual sense of worth, an empowerment approach basically means to focus on women's health and to emphasize women's individual sense of self-worth that brings them to focus the value attached with their health (linked to "power within"). This enables them to make decisions accordingly about their health (Cheston and Kuhn, 2002). Furthermore, the relation between empowerment and women is getting stronger as empowerment is specified with women. As empowerment is generally associated with health, World Health Organization (WHO) states that, the empowerment of women is a fundamental prerequisite for their health. So empowering women means to promote a woman as an individual and having complete access to the common as well as specific resources, basic needs of life (example education and employment) and the protection and promotion of their human rights and fundamental freedoms. This enables them to make choices free from the pressure of being subordinated by a male dominated culture, coercion or discrimination (WHO, 1995).

For the social empowerment of women, education plays a vital role (Indian National Policy, 2001). Being a part of society, a woman needs to be equipped with education. Hence, empowerment requires the prerequisite of equal access to education for women. To empower women, there are some special measures which support in eliminating discrimination, universalizing education, eradicating illiteracy, creating a

gender-sensitive education system, increase enrollment and retention rates of girls, and improve the quality of education to facilitate life long learning as well as development of occupational/vocational/ technical skills of women.

Empowering women is a concept which brings out the internal capabilities of a woman in setting a goal for herself, set agendas and brings pace for her to have changed (Carolyn, 2003). Empowerment is an inside ability, but can be provoked internal. Parties such as development cooperation agencies or NGOs can have a strong role in promoting women's empowerment by facilitating, capacity building and networking. An appropriate external support can be an important factor to give progress to empowerment. A women's organization who is working on the specific cause to address issues regarding gender subordination can be supported as they are promoting woman as an active participant in political systems and facilitating dialogue between those in positions of power and organizations with a women's empowerment goal (Carolyn, 2003).

Different agencies are actively participating in the activities to empower women. Activities such as micro credit, political participation and reproductive health have been done in these areas to promote women. However, the limits to some extent on these activities are by themselves empowering (Cheston and Kuhn, 2002). Varieties of development initiatives empowerment approach are being utilized for micro credit programs, democratization programs and leadership training programs. However, the

question is, when and when not to constitute for the program of empowerment. For example, increased decision-making power at the individual level and greater access to economic resources of women does not necessarily translate into greater representation of women in political institutions.Furthermore, to sustain empowerment in one area, it needs to keep its focus on all the facets around. For example, reproductive and sexual rights cannot be fully exercised when women lack independent economic resources. The organizational structure and its process in addition to policy framework are very important factors to be considered in promoting empowerment.The effective participation of people in the decision and its processes affecting their lives is demonstrated by empowerment. To support women empowerment, the strategy used should include active participation from women even at all the stages of project evaluation (Cheston and Kuhn, 2002).

2.2.2 Concept of Women's Happiness

Ed Diener, author of Happiness: Unlocking the Mysteries of Psychological Wealth, describes what psychologists call "subjective well-being" as a combination of life satisfaction and having more positive emotions than negative emotions.

Daniel Slesnick (1998) highlights that the early economists such as Mill and Smith defined happiness in terms of utility. They outlined happiness in terms of monetary budget as a rational decision and material consumption. But their views have been challenged. Subjective measures of wellbeing and satisfaction is termed as happiness,

according to current economists. “Unscientific” term is defined as an ordinal utility regarded through standard economic theory, because of the lack of observable objectivity; cardinal utility measures intangible goods and services that can be equally regarded as unrepresentative of the personal satisfaction and well- being. Nattavudh Powdthavee (2007) stated that the theory of modern economics has given up the idea of empirically measurable utility and substantive in the form of satisfaction and happiness to elaborate the choices of individuals in support of the preference index of ordinal utility.

Diener and Seligman (2004) revealed that the proof of a good life is the amount of happiness of the person. However, the nature of happiness is not clearly defined. Happiness may possess lots of meaning like internal satisfaction, well defined life pattern and positive feelings about life. Oswald (1997) proposed the meaning of happiness as the amount of pleasure and satisfaction about life.

Diener (2004) presented social well-being hierarchical model of experimental evidence that has four components: Pleasant emotions are like love, joy, happiness and enjoyment. Unpleasant emotions are like sadness, anger and worry. Global life judgements are like accomplishment, achievement and life examining, and domain satisfaction like work life, and health status. Nattavudh Powdthavee (2007) argues that policy makers are not very sure of the reality that measurement of individual's well-being is sufficient. Both subjective and objective parts of individual's satisfaction

should have the indicators like the well-being of the individual, happiness level and life satisfaction of the individual.

All the above mentioned definitions of happiness presented by different economists revealed that happiness is the study of analyzing different variables having both objective and subjective perspective. It measures life satisfaction, well-being of the individuals and quality of life.

2.3 Theories of Women Empowerment and Happiness

This section presents the theories of women empowerment and happiness.

2.3.1 Empowerment

According to the general theory of gender stratification and theory of gender and development, women with economic power are given rights to make household decision. Usually, women make the decision on how to spend their money on nutrition, health and education of their children. Women who have economic power and control over her own money and other economic resources are positively affect development and gender equity. When women have economic power, they are understood that they have control and independence on using her income and other resources like land, livestock and businesses (Blumberg, 1984). Women with economic empower have freedom of physically mobility and contributes to nutrition, health and education of household (human capital). This contribution leads to an

indirect increase in national income, wealth and well-being of the nations (Blumberg, 1989a).

2.3.2 Theories Related to Empowerment

General theory of gender stratification (Blumberg 2004, 1998, 1991, 1984, 1978) and theory on gender and development (Blumberg 2004a, 2004c, 2002, 2001a, 2001b, 1989a, 1989b, 1988, 1995) are the two theories that relate to empowerment. However, there are many other factors like geography and social structure that affect empowerment of women and the level of gender stratification. It is supposed that gender inequality is reduced if the women are given economic power.

Money is important to empower women. So, to empower women, women have to be independent and they should have their own source of income. One way for women to have own income is by involving themselves in small scale business. However, woman lacks the capital to venture into business. Since the problem of women's empowerment and happiness cannot be resolved without having capital, microfinance is a kind of financial service that can be a source of financing for microfinance target women. Hence, microfinance empowers women by getting them involved in small scale business. As a result they earn money and with that their purchasing power increase. When women have access to financing, the following outcomes of women empowerment are observed.

When women have their own income, psychologically, they feel powerful because of Independence. This feeling gives them self-confidence and this self-confidence leads them to empowerment. Empowerment leads to power of decision making on both household and economic level. With empowerment, females have the right of freedom, right of ownership, and right in social and political matters and decision making. Women with household decision making empowerment can spend their income on their children's nutrition, health and education. Decision making power in the household and economic level enables the women to make fertility decision and decide on using their assets (Blumberg, 1984).

On the other hand, household welfare of women drops if the projects decrease women's relative income, for example, by expecting women to work harder but giving their income to their husbands. This situation can lead to failure in development projects by inducing women to sabotage (Carloni 1987; Blumberg 1988). High level of economic power leads to high level of empowerment and happiness in the household and national level (Blumberg, 1989a). Hence, high level of economic empowerment means women have their own income and this income has a positive impact on happiness and empowerment.

2.3.3 Happiness

According to the existing empirical research, poor countries are less happy than richer countries. At the individual level, people in rich countries are more satisfied and

happier than people in poor countries. However, studies have shown that in the developed countries where per capita income is high, the public is not enjoying noticeable improvement in the level of happiness. Hence, we cannot say that high level of income necessarily shows a high level of happiness. This happiness paradox can be explained by various theories. The most famous theories are the theory of adaptation, social comparison theory and the aspiration level theory.

2.3.4 Adaptation Theory

According to the adoption theory, high level of income can increase happiness on a temporary basis, but, with the passage of time, level of happiness would revert back towards its original level (Perry, 1998).

2.3.5 The Theory of Social Comparison

The theory of social comparison argues humans as social animals and has social contacts with one another. They cannot spend their lives in isolation. They live in communities and have social network so, they compare their achievements with others, living in their surroundings known as peer group (reference group). It is depressing that increase in level of income of peer group leads to decrease in level of satisfaction of others. However, social comparison theory ravels one's relative income rather than one's absolute income that determines life satisfaction (happiness). Dusenburry's relative income hypothesis and theory of social comparison are almost similar. In general, when a person A's income increases, his happiness level would

also increase. However, this does not necessarily happen because person A compares himself with person B and he is not satisfied until he achieves the same level as B (Festinger, 1954).

2.3.6 Theory of Aspiration

According to the aspiration level theory, the gap between desires and achievements, rather than the achievements themselves, determines life satisfaction (happiness). High level of income leads to equal levels of income aspirations. Microcreadit is a kind of finance that helps women by involving them in small business. A woman can make money by her business.So; there is possibility of the impact of microcreadit on women's life satisfaction. Hence, if the degree of this gap remains constant there would be no increase in life satisfaction. However, studies done on this paradox of the happiness are based on data largely from the developed world. Hence, the happiness paradox can be questioned whether it also happens in the under developing countries (Selten, 1998).

2.4 Commonly Used Dimensions of Women's Empowerment

Malhotra, Schuler and Boender (2002) pointed out that a number of frameworks have been provided by various researchers in favor of women's empowerment dimensions. Some of these dimensions of women empowerment overlap with each other. In general, the dimensions that have been used to measure women's empowerment are economic, political, legal, socio-cultural, and psychological. Each of these dimensions

has sub dimensions that are very vast. These sub dimensions ranging from the social, cultural phenomena in terms of norms regarding the females' physical movement to non-familial social help systems and networks offered to females. However, there are several stages of household and social aggregation in the community that need the indicators of empowerment to be operationalized not only at the regional and national level but also globally. The commonly used dimensions of empowerment are as follows.

2.4.1 Economic Dimension

The measures that have been used in this dimension are women's control over income, the relative contribution to family support, access to, control of family resources, access to employment, ownership of assets, access to credit, involvement or representation in local trade associations, access to markets, representation in high paying jobs and representation of economic interests in macroeconomic policies of state and federal budgets. To empower women is to give authority to her in making decisions of her life.

2.4.2 Political Dimension

The measures that have been used in this dimension are women's knowledge about the political system. Empowered women can have domestic support for political engagement, exercise rights to vote, feel as an individual and involve or mobilize the local political system/campaign, openly give support for a specific candidate or

legislation, representation in local bodies of government, represent regional and national bodies of government, vote in unions and represent interests in effective lobbies and interest groups.

2.4.3 Social, Cultural Dimension

The measures that have been used in this dimension are women's control over freedom of movement, visibility in access to social species, participation in extra-familial groups, social networks, the shift in patriarchal norms (such as son preference) symbolic, literacy, access to educational options and modern transportation.

2.4.4 Psychological Dimension

The measures that have been used in this dimension are women's control over self-esteem and self-efficiency.

2.4.5 Family / Interpersonal Dimension

The measures that have been used in this dimension are women's control over participation in domestic decision making, control on resources being utilized at household level, control over sexual relations, ability to make child bearing decisions, ability to decide on the use of contraception, permission of abortion, control over spouse selection, reduction in the practice of dowry, marriage timing, local campaigns against domestic violence, freedom from domestic violence, shifts in marriage and kinship systems indicating greater value and autonomy for women (e.g. late

marriages, self-selection of spouses, acceptability of divorce) options for divorce, regional national trends in timing of marriage, political, legal, religious support for (or lack of active opposition to) such shifts, systems providing easy access to contraception, safe abortion and reproductive health services.

2.4.6 Legal Dimension

The measures that have been used in this dimension are women's control over legal rights in their personal life, proper rights regarding property, knowledge of legal rights, domestic support for exercising rights, community for rights, access to resources exercising rights and options, campaigns for effective local of legal rights, laws supporting their rights, advocacy for rights and legislation and use of the judicial system to redress rights violations.

2.5 Different Paradigms of Microfinance Towards Empowerment of Women

To understand the different policies and priorities in relation to microfinance and gender policy, three paradigms were identified by Mayoux (2005). The three paradigms are feminist empowerment, poverty reduction and financial sustainability. These dimensions have different importance in terms of how they perceive the inter-linkages between microfinance and women's empowerment.

2.5.1 Feminist Empowerment Paradigm

Microfinance plays an important role by its strategies to permute gender equality for women's empowerment. In this connection, microfinance has different constraints

and strategies that must be part of sectional strategies to change within the industry, which may improve prospects for women, when women are addressed. The conditions for microfinance should depend on participatory rules to build up useful knowledge of industries and enable women to develop their strategies for change.

2.5.2 Poverty Reduction Paradigm

The poverty reduction paradigm is well known since many NGO's uses this paradigm to integrate poverty target community development programme. NGO"s provides social services by promoting health care, literacy and infrastructure. These NGO's not only stress on providing basic needs of life to sustain human's liveli hood, but also starts on many programme for development of the community. NGO's targeted the poorest community and within this community focus on women as women are important for the well-being of households as they usually spend their income on their household. So, it is assumed that if women are empowered, it can contribute to household income leading to decline in gender inequalities.

2.5.3 Financial Sustainability Paradigm

It is assumed by the economic factor paradigm that increase in women's access to credit and saving will lead them towards an economic role in decision- making on the use of credit and saving.

If women are good in repayment, they can involve themselves much greater in credit and savings. A decision on the use of credit and saving in micro – enterprises enhance

their income. Women with higher income have control over their income that can boost up their employment and wage.

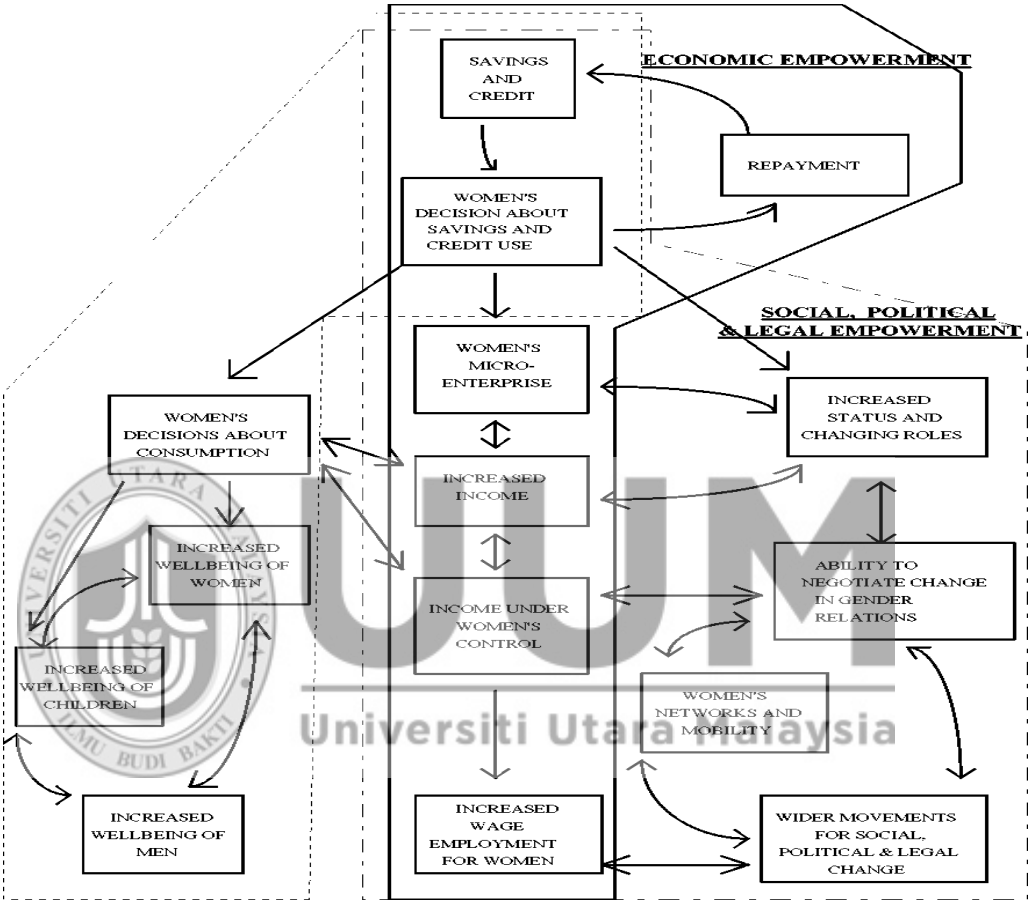

Figure 3.1
Process of women empowerment
(*Source: Mayoux, 2005*)

2.6 Measurements of Women's Empowerment and Happiness

The measurement of empowerment is an important issue. Essentially, the investigation of the measurement of empowerment must be in a given financial, socioeconomic political setting in which an intercession is made. Measuring of empowerment is a primary development issue. According to Malhotra *et al.* (2002) there is no rigorous methodology in measuring empowerment.

Different authors measure empowerment in different ways, but they all face problems in measuring empowerment. Some of the problems in measuring the empowerment are as follows. First, both the qualitative (borrower's access to financial resources, role in economic and household decision making, variation of self-esteem, spatial mobility, self-confidence, level of awareness etc.) and quantitative data are involved in measuring the women's empowerment. Unfortunately, measuring the qualitative variables is quite difficult.

Second, women's empowerment is an on-going process. Usually, the data for women's empowerment is collected at the minimum, two points in time, for example before loan and after loan. It is difficult to select the time gap for measuring the change because some changes need longer time period while some changes can be measured in a shorter time period. The possibility of a shift in the relevance of empowerment indicators over time exacerbates the problem. In addition, more time and resources are required to measure the impact.

The UNDP's Human Development Report (1995) introduced Gender-related Development Index (GDI) and the Gender Empowerment Measure (GEM). Both are complementary indexes. Inequalities in term of basic needs between men and women can be measured by the Gender-related Development Index. Gender-related Development Index are concerned with the extension of capabilities of men and women. On the other hand, the Gender Empowerment Measure evaluates women's access to economic and political positions like share of women seats in parliament/assemblies, and the share of supervisory, administrative and technical posts. The Gender Empowerment Measure focuses on specific capabilities to take benefit of the opportunities of life. Most studies measure the empowerment of women using the Gender-related Development Index and the Gender Empowerment Measure.

According to Amin *et al.* (1998) the concept of women's empowerment is divided into three components; inter-spouse consultation index, individual autonomy index. Each component of this women's empowerment needs to be measured separately. Inter-spouse consultation index reports on the extent to which wives are consulted in household matters by their husbands. Individual autonomy index seeks to measure women's freedom of movement and matters of money spending. The authority index represents women's decision making power (usually in backward areas, the decision making power is in the hand of head of household or patriarch of the family).

Almost all the researchers are not satisfied with the appropriateness of the construction of indices in measuring women's empowerment. They suggest that different weight should be given to different indicators of women's empowerment because some indicators have different magnitude and implications on women's empowerment. For instance, there is a big difference between making decisions about going to the market and decisions on selling or buying land and other assets. Hence, it will be inaccurate to give equal weights to both types of decisions. However, there is no universal or standard theory on measuring empowerment. The selection of representative indicators to measure the empowerment of women depends on each researcher. Different researcher uses different methods of measuring women's empowerment and happiness. However, it is important to note that when a researcher assigns weights to indicators of women's empowerment, they must be aware about the political, economic and social indicators of the area of study.

Mason and Smith (2003) take the sample of 56 communities in five Asian countries to define the multiple measures of empowerment of the married women. Scales are introduced in this study that concern to measure decision, household decision, economic decision and freedom of movement. Parveen (2004) in examining the determinants of empowerment of women living in rural area, used three types of dimensions; psychological, familial and socioeconomic. Participation in household decision making, access to resources and ownership of assets and other factors of empowerment were assigned scores. From these obtained scores, cumulative empowerment index was constructed.

According to Chaudary and Nosheen (2009) empowerment is a multidimensional concept determined by various cultural norms and socioeconomic factor. They suggest developing indices to make a cumulative index to measure women's empowerment. Hence, due to the complexity of defining and measuring women empowerment, only a few empirical studies on the subject have tried to examine the impact of microfinance on women empowerment. Hashemi *et al.* (1996) in studying the impact of microfinance on women's empowerment, used empowerment indicator which is also known as "index of empowerment" based on eight criteria: ability of purchasing power on small and large scale, freedom of movement, relative freedom from domination by the family, economic security, social, political and legal awareness, role in key decisions of households, and involvement in political campaigns and public protests. The women are considered empowered by this study if a woman has a positive score on five indicators or more, out of eight indicators.

Like empowerment, happiness also includes qualitative and quantitative dimensions. Oswald (2002) argues that there is no authentic methodology in measuring happiness. Different authors measure happiness in different ways. Happiness is a combination of the qualitative and quantitative factors. To measure happiness, some researchers use scale indexes. Michael (2006) study in measuring happiness, he uses survey utilizing items from scales that are widely utilized to provide comparability. Happiness is multidimensional in nature, as reflected by the principle determinants of happiness. Gross National Happiness covers factors and domains like demographics and

household Information, life satisfaction, happiness, psychological wellbeing, education, learning, cultural diversity and resilience, governance and family and community vitality.

Bush *et al.* (2008) used marital happiness scale to measure indicators of marital happiness (marital happiness, life, happiness, demographic and family, education and economics, gender relations and attitudes and values). To measure the depressive symptoms, he uses Langner (1962) scale to assess depressive symptoms with respect to feelings of depression and anxiety and sleeplessness. Greal and Joseph (1993) pointed out that, in measuring factors of happiness, the literature includes two types of scales; those concerned with happiness and life satisfaction and those that measure loneliness and depression. They further pointed out that the most commonly used measures of happiness do not include aspects of depression. Porter and Purser (2008) used the Human Development Index to measure happiness of United States, (measurement is of country level not on an individual level). They apply the UN's HDI to the United States with the use of geographic information systems to explore clusters of minimum and maximum improvement in happiness. Life satisfaction has been measured either as a short run reaction to daily events (momentary affect) with the diary method (Kahneman *et al.,* 2006) or as an overall evaluation of one's own satisfaction about life considering all its aspect. The largest part of empirical contributions has followed this second direction considering that a clearer evaluation of one's own satisfaction requires the contribution of a (delayed in time) inner

resounding of lived experiences. From this point of view Herrera *et al.* (2006) compare Madagascar and Peru, and document that the correlation between subjective wellbeing and income is stronger in poorer environments.

Pennock (2006) develops gross national happiness abridged survey to measure the gross national happiness of Bhutan. This survey supports the measurement of gross national happiness in a variety of cultural and national settings. It is unique insofar as it incorporates multi-dimensional measures of happiness as well as the key factors that are known to affect happiness. As such, it represents a comprehensive measure of GNH which can be used in a variety of economic, social and cultural settings. The survey covers following domains in the questionnaire, demographics and household information, life satisfaction and happiness, psychological wellbeing, emotional experience, time use and balance, education and learning, cultural diversity and resilience, core values, cultural vitality, family and community vitality, ecological diversity and resilience, spirituality, governance and living standards.

2.7 Econamatric Model

There are different models like (e.g OLS, multiple regressions) which are used by different researchers to examine the impact of microfinance on women's empowerment and happiness.The underlaying econometric model of this study is Mutinomial logit model which is given as foows:

2.7.1 Multinomial Logit Model and Women's Empowerment and Happiness

Fadden and Train (2000) explained that a multinomial logit (MMNL) model is for discrete response. Hedeker (2003) stated that multinomial logistic regression model is described for analysis of nominal and ordinal response data. Ali and Haq (2006) applied the multinomial logit model to examine the impact of education and decision making authority on happiness. Mandal and Hajra (2012) measured the subjective empowerment that was qualitative in nature; the researcher applied the multinomial logit model to examine the impact of income, education on women empowerment. Multinomial logit and multinomial probit model is parameterized to allow exibility in the choice of contrasts used to represent comparisons across the response categories. Estimation is achieved using a maximum marginal likelihood (MML) solution that uses quadrature to numerically integrate over the distribution of random effects. However, the multinomial probit can be applied only when there is a small number usually three of alternatives, because, for categories of four or more, numerical integration to obtain orthant probabilities is too costly for practical application in iterating likelihood maximization. For example, trivariate integrals are required for four alternatives. Therefore, this technique may not be appropriate in analyzing determinants of a course grade, which typically has five different ranks (Maddala 1983; McFadden 1984; Park and Kerr, 1990). Stevenson and Wolfers (2009) measured the happiness (life satisfaction and well-being) in real time on the basis of three category response which was very happy, pretty happy, and not too happy?"

Blanchflower and Oswald (2004) measured happiness in subjective measurement. Easterlin, Swite, Sawangfa and Zweig (2010) landmark a study, most notably in the advocacy by a group of renowned economists of the use of subjective measures of well-being such as life satisfaction.

2.7.2 Methdological Issues in Measuring the Impact of Microfinance on Empowerment

Calculating the effect of microfinance on authorization of females, a number of procedural matters need to be solved. The main topic is operationalization the women authorization. It is already mentioned that the female authorization is not a single dimension oriented variable but it is a multidimensional concept. Consequently, the mechanisms of theory for female authorization need to be determined, and to be combined with a quantifiable theory that can be verified concerning its cogency.

Another subject is the pros and cons relation between microfinance and authorization. Through case study is deprived of intervening as it is the case in experimental research, is not capable to synthesise cause–effect relations comparing to experimental researches like the one by Chowdhury (2011). Thus, the current study used an intervening setting that investigates cause and effect relations between microloans and a multidimensional paradigm of authorization. Furthermore, many researches apply outreach extent and emphasis on the debtor features, their societal position or sex, and on mortgage size (Hermes and Lensink, 2011; Shabibul Hasan, 2012). Nevertheless these meters are imperative, but, they do not direct the communal

effect of microfinance straight. Calculating for the ratio of females debtors might be a sign for struggling to develop women mortgagors' authorization, nevertheless it does not clearly demonstrate that microfinance effects authorization. Therefore, mortgage successions with one mortgage approved per mortgage succession were applied as manipulating variable in order to quantify the impact of microfinance on women empowerment. The method centres the hypothesis that the impact of microfinance on empowerment of females does not arise till the trade which was sponsored through the microloan creates a stable economic yield. New mortgagors being in the first loan cycle might not an influential practice on authorization at this level because the time for the mortgage for affecting the result is very little.

2.7.3 Measuring the Impact of Microfinance on Empowerment

Determining the non-budgetary components of microfinance is a simple idea to ensure the capability to accomplish possible affirmative effects i.e. empowerment of females while non-affirmative effects refers to child labour which exists in family-based micro-enterprises prospects (Maldonado and Vega, 2008) or the threat of exploitation in different enterprises. Nevertheless the fact that numerous studies investigate the ways of inquiry for determining microfinance influences (Weber, 2013) still the evaluated effects of microfinance are vague. In fact there is not a single research which focuses on the determination of women's empowerment. Numerous studies are carried out focusing on the amount and quantity of loans and the debtors' communal matters regarding loaning their debts.

Struggles for measurement ascertained only the size of debt and genre of debtors and the microfinance institutions also anticipated the expenses, expenditures; i.e. genuine or capital expenses regarding monetary and social profits of microfinance business institutions and their clients (Stewart, 1975). Pseudo expenses are usually used to quantify the approximation of social expenditures and returns. The classification is usually linked with evaluation of the microfinance proficiency differentiating and distinguishing the decreasing methods of poverty (Bhatt and Tang, 2001) for example, uninhibitedly financed progression help (Walle, 1997).

2.8 Impact of Microfinance on Women's Empowerment

Microfinance is regarded that aims to involve making people self-dependent by entrepreneurship assistance. Researchers, for example, Woodworth (2000) argued that microfinance is requisite to boost making people out of poverty (Khandker, 2005). Rather than conventional growth provision, microfinance comprises and commonly even ponders on the off-the-cuff division (Alter Chen, 2005) and might be a choice to macroeconomic measures that are frequently employed within progressive support plans (Woodworth, 2000).

Undesirable consequences of the unintentional division's criticism are that prospective debtors are not mostly heedful to the yields and managements that are open by microfinance bodies and commercial banks or that they are not prepared to acquire debts owing to their lack of education or knowledge in local facilities offered by

commercial institutes (Hasan, 2012). Similarly loan valuation procedures of systematized creditors are commonly severer comparing to routine creditors' assessment. Debtors are reluctant in demanding loans from commercial banks and microfinance organizations (Arora and Meenu, 2011). Concerning the sex of the micro debtors, an investigation carried out by Woodworth (2000) denotes that sixty five per cent of all microloans were granted to females which was intended to support them to start or retain an enterprise with a few bodies that had high debt rates for females (Chowdhury, 2011; Noponen, 2003).

Frequently, microfinance focuses on the authorization of females with a definite outcome to authorize them in elevating an outstanding role over their destinies (Paxton, 1995). Furthermore, the focusing the females' debts at lower debt rate than male's debt rate is basis for the concentration on female borrowers and male borrowers (D'espallier, Gue'rin, and Mersland, 2011). A small number of researches cannot be representation of this debate but a mega project should be launched (Godquin, 2004). Albeit all these facilities for females which guarantee the empowerment of female borrowers are effective in their true sense? Chase and Kasynathan (2001) suggest that microfinance institutions should make policies regarding women empowerment with execution in reality keeping clear the view of the women rights and other gender issues in their organizational stream. Components of empowerment should be evaluated regularly for the awareness of the microloan facilities mission, its utilization with definite benefits and women's full control over

their loans. Besides, such kind of projects should be launched for the promotion of this mission.

Ali and Hatta (2012) put that a moderate approach of microfinance that basically precedes the refund rate and the monetary support of the microfinance foundation into account does not create a noteworthy effect on authorization. They demonstrate that females' authorization should not only be a result of microfinance but that it should be achieved and coordinated through vision, method, and procedures of microfinance organizations (Haile, Bock and Folmer,2012).

Their fallouts tell that females who were members of a microfinance plan consummated a substantial growth in empowerment comparing to a non-member group. In a substitute research, utilizing a multimethod approach and working with an experimental and a control group, Chowdhury (2011) argued that the venture in a microloan scheme provided significantly encouraging results, including empowerment for the members of commercial institutions. According to operational and theoretical point of view, Kabeer (2000) states that distinctive researches on empowerment of females via microfinance discuss the fact that miscellaneous notions or components of empowerment of women, for example, power politics in household affairs (Kabeer, 2001) vs. a growth of the money and associated situations of a debtor are linked. An agreed definition upon the consideration of the notion of empowerment

is not possible because distinctive researches denote various effects of microfinance on females empowerment (Rai and Ravi, 2011).

Nevertheless the obtaining of a loan, external engagement and individual issues can affect the achievement of microloans. Exterior variables might be market traits, business and market knowledge as well as statistical and monetary writing expertise (Leach and Sitaram, 2002). The various factors that affect the female's empowerment, as Khan and Noreen (2012) indicate, are age, spouse education, paternal-inheritance, marital status, number of alive kids, and the amount of microfinance loan and the effect of microfinance. Obviously, other external aspects, for instance, infrastructural progress, assets provision, capacity building education, debtors' number, agility, work availability, and other various factors have an impact on women's empowerment (Otero, 1999). On account of these external effects the study was directed in a particular district in Pakistan to ensure equal facilities and conditions for borrowers and external socio-political factors. According to Ngo and Wahhaj (2012) microfinance increases the empowerment of women, in the shape of productive joint action, and when a huge offer of the household plan is used openly for household products. Consequently, the study recommends that the loan resources should be put into a joint business run by husband and wife. Thus, it appears that various external variables, for example, social effects, family relations, and information affect directly the impact of microfinance on empowerment (Khan and Noreen, 2012).

Mayoux (1997) stated that microfinance programs promote women's empowerment. The study examines the impact of microfinance on women's household decision. To measure the women's economic decision-making ability within a family, the study inquiries from women borrowers how they spend their own income; provide financial help to others, purchase without permission, how they spend family income, expenditure on children's education, expenditure on health, buying gifts for social functions, lending and borrowing money, clothing purchase, livestock purchase, emergency fund managing, expenditure on daily food, van/rickshaw purchase and lease on land. He concluded that an increase in women's income level through micro financing enables them to access market information leading to greater levels of economic independence and increasing women's participation in household decision. The results of the study also show a positive impact of microfinance on knowledge about social factors reducing cultural barriers to women.

International Labor Organization (1998) study examines whether microfinance plays a role in the women's livelihood in increasing their income, employment and decision making. In many developing and industrial countries, informal sectors present a challenge for government, the social sector and civil society. Women faced many cultural and social barriers to enter into the formal labor market, forcing them to enter into the informal sector. Women may have easy access to informal sources of credit like moneylender, friends and relatives, but they get charged high rates of interests. Formal financial institutions are less willing to give loans to females. By estimating

OLS regression, the results show that microfinance has a positive impact on women's livelihood in increasing their income, employment and income generating activities. In addition, microfinance has a positive impact on women's household and economic decision making.

Cheston and Kuhn (2002) analyze the impact of microfinance on women's household decision, self-confidence, health, nutrition and well-being. The study also tries to determine whether the amount of microfinance loan affects women's empowerment. The study uses a case study of Sinapi Aba Trust. Focused group discussions were held with loan officers to examine how SAT affect the process of transformation of women clients. Interviews were conducted with 10 women clients and 11 husbands' clients. By estimating the OLS regression and descriptive analysis, results show education and marital statuses have an impact on women's health, nutrition, household decision, self-confidence, and well-being. The results also show the highly positive impact of microfinance on those women who have large size of loan and less impact on women with small size of the loans. The author suggests that the size of microfinance loan should be increased to empower women. The study also concludes that as women are considered as not very financially strong, giving them loans and increasing their financial security contributes to their empowerment in the household and in a work setting. In addition, as women spent most of their money on their family, such as on the children's education, diet and health, loan has a positive impact on family health and nutrition.

Hunt and Kasynathan (2002) examine the impact of microfinance on women's freedom of movement, economic growth and self-respect by using descriptive analysis. Data was collected from borrowers' women and non-borrowers women. To measure the impact of microfinance on women, three NGOs in Bangladesh were taken as a sample. They find that microfinance programs involve women in income generating activities and have a positive impact on economic growth of the country. Findings show that there is a clear and direct relationship between access to credit and an increase in the status of women within their households and communities. Women's freedom of movement and self-respect are positively related with microfinance. Beside microfinance, number of sons, education and marital status also affect women's freedom of movement and self-respect.

Hunt and Kasynathan (2002) didn't provide enough discussion on the importance of dependent and independent variables like the impact of age, education, family size, marital status and other important variables on the empowerment of women. There are several studies that show the importance of these variables. In case of age, Mason (1986) argued that women's behavior differs across the stages in the life cycle. It is also supported by Handy and Kassam (2004), Noreen (2010) and Mustafa *et al.* (2008). Malhotra *et al.* (2002) states that education has been pointed out as a key indicator of empowerment through several literature. Family size is also an important variable affecting to empowerment. Banu *et al.* (2000), Becchetti (2009), Bandyopadhyay *et al.* (2011), Hasherni *et al.* (1996), Hashemi *et al.* (1996) and Parveen (2007), use

family size to study the impact of micro finance on women's empowerment and happiness because number of household members affect women's empowerment and happiness. Marital status is also important because life partner interferes in the wife's matter, especially in poor and developing countries. Becchetti (2009), Bandyopadhyay *et al.* (2011), Hasherni *et al.* (1996) and Parveen (2007) include marital status to study the impact of microfinance on women empowerment and happiness. It is supposed that if the female is married, she feels confident and believes her life partner helps her in good and bad circumstances related to her empowerment.

Gobbi (2005) examines the impact of micro-finance on women's economic and social empowerment. In the case of Nepal and Pakistan, both countries provide loans to empower the people of rural areas. A survey of the two countries is taken for comparison. Three microfinance institutions from each country were selected by interviewing 100 women clients from each institution. By using comparative analysis, the results of the study show that the main factors determining the level of women's economic and social empowerment in a country are its cultural and legal environment, and national policy on women's rights and poverty alleviation. Initiatives organized by micro-finance institutions for the provision of financial services and for policy and legal reform are key elements for achieving greater economic and social empowerment. The descriptive analysis show microfinance and micro enterprise development has greater potential for empowering women and used as a tool for reduction in poverty. He found positive impact of microfinance, women borrowers'

enterprises on women's empowerment. The results also show that impact of microfinance seems to be greater on Nepalese than Pakistani women's empowerment.

Holvoet (2005) examines the impact of some of the changes in microfinance programmed features on one particular dimension of empowerment decision-making. By using household survey data from South India, the author explores the importance of the borrower's gender and the lending technology for intra-household decision-making processes. By using loglinear and multinomial logit model, the results of the analyses show women borrowers do not get decision making patterns as it was expected. It is shown that direct bank–borrower credit delivery does not challenge the existing decision-making patterns, regardless of whether men or women receive the credit. Findings explain, when loans are channeled through women's groups and are combined with more investment in social intimidation, a substantial shift in decision-making patterns is observed. This involves a remarkable shift in the norm-following and male decision-making to more bargaining and sole female decision-making. Results show that microfinance has significant impact on cultural factors and support the interaction with economic factors. The results also suggest that intensive social group intimidation, particularly, raises a program's potential to increase women's decision-making capacity.

Muraieedharan (2006) analyze whether microfinance affect women's empowerment in Kerala and Karnataka, India. The data used by the author is based on multistage

sampling. Firstly, two states were selected and then secondly, two sample districts were selected in which long tradition of self-helping groups (SHGs) and neighborhood groups existed. Around five hundred people were interviewed from each district. Empowerment is measured in two ways by looking at the micro indicators and macro indicators. Macro indicators were defined by Human Development Report 1995 as productivity, equity, sustainability and empowerment. This might be explained as household decision making scale. He uses descriptive analysis and finds women in Kerala are comparatively enjoying their lives less empowered to the women living in Karnataka. The corresponding percentage of empowered women in Kerala is 25 percent, while Karnataka is 32 percent. The findings show that credit has positive impact on household autonomy and decision making of the women living in Karnataka more than the women living in Kerala. The microcredit has a positive impact on education, and income of the borrowers. Income and education of husband is also positively related with microcredit.

Swain (2006a) analyzed whether microfinance affect women's household decision, self-respect, mobility and financial resources. The data were collected from five Indian states of India consisting of Self Help Group members. The descriptive results show that in India, marginalized women aren't only trying to provide social and economic status, but also change in cultural norms and traditions to bring empowerment. Women get greater respect within communities if they follow traditional norms otherwise they are treated badly. Women have power in decision making only on

small things like expenditures on food, but major decision of buying and selling of assets are taken by males. Women reported that men consult with them in all matters, but take independent decisions. The results of the study found that SHG has a positive impact on women's household decision and self- respect, mobility and financial resources. The results, which are robust, strongly indicate that SHG members are empowered by participating in the microfinance program in the sense that they have a greater propensity to resist existing gender norms and culture that restricts their ability to develop and make choices.

Swain (2007b) analyzed whether microfinance affect women's empowerment in terms of women's ownership, confidence and household decision making. He stated that empowerment and social capital are multilevel concepts. The study interprets the concept of women empowerment as the process in which women challenge the existing norms and culture to effectively improve their well-being. Data on respondent was collected from five states in India. The complete survey involved a survey of household, survey of groups, focused group discussions and interviews. The data were collected from three types of households to compare the impact of microfinance. There are the Self-help group (SHG) respondents who have been living there for more than three years, newly formed groups between six months to less than a year and a control group that consisted of households which have not been getting benefit from Self-help group (SHG) but with similar characteristics as the Self-help group (SHG) household. The SHG and control groups show similar characteristics in

terms of average age of respondents and values of assets owned. Both groups were also similar in terms of percentage of earners, literacy and respondents engaged in farm activity. The results of the study show that there is a significant difference in the percentage of households of both groups that reported an increase in income. About 65percent of SHG members increase their income, whereas the percentage is only 48percent of the control group. The results also show Self-help group (SHG) members have a positive economic impact on the expenditures of the children's school education, although not much impact on the asset ownership. The results also indicate that the purchase of raw material and pricing of final product is much better in the Self-help group (SHG) members than the control group. The result also shows that level of confidence and mobility are much better among the Self-help group (SHG) members than the control group. The interaction with officials greatly increased mobility and self-confidence and better communication skills. Self-help group (SHG) respondents show greater involvement in decision making areas of family planning, children's marriage and buying and selling of land as compared to control group. Although Self-help groups (SHG) have not much positive impact on female decision making, there is slight improvement in sending their daughters to school.

Rehman and Khan (2007) explained the mechanism of microfinance in Bangladesh and also find out how microfinance helps the poor people in improving their living standards. The study is based on the client's perspective and especially focusing on Bangladesh. The results of the study indicate that microfinance has a positive impact

on health, education, legal rights, sanitation and other living standards. The results also indicate that microfinance programs which target women, most vulnerable part of society who lives within household with no assets, leads to improve in women's self-employment. Findings also show microfinance programs have significantly improved women security, autonomy, self-confidence and status within the household which in turn improves women empowerment.

Kavitha (2007) analyzed the impact of microfinance on women's confidence, income generating activities, mobility and decision making. The results of her study show health, education and socioeconomic factors affect empowerment. Findings also show that microfinance generally targets poor women as they are more reliable with having excellent repayment rates. When women invest in small business, they put money back into their families resulting in a positive impact on health, education and stronger local economies. The results also show the positive impact of microfinance on women's confidence, mobility and decision making. The results of the study show that microfinance can help the poor people to increase their income by setting up small businesses. The study concludes that as women's presence in the family is considered necessary due to culture and tradition, women's participation in the labor market is considered as a means to earn extra income improving their own and their family living conditions.

Asim (2008) evaluates the impact of microcredit program on indicators of women empowerment in urban slums of Lahore district in the province of Punjab, Pakistan.

The study explores the impact of microfinance on child related health indicator, household, economic, social and household purchase decisions. Two microfinance institutions, Kashaf Foundation and Community Support Concern (CSC) were chosen for this study. Preference base indicators like child related decisions, health decisions, economic decisions, social mobility decisions, resource allocation decisions and household purchase decision are used in this study. To explore the link between women empowerment and microcredit, the author uses three different estimates; simple parametric framework of conditional mean independence, randomization of treatment and binate profit model. The results show that microcredit intervention has negative impact on child related health, economic and social decisions. The results also indicate on average, microfinance has an insignificant impact on women's role in the decision of household purchases of major assets. He argued that the insignificant results are due to microfinance charging a high interest rate that is burdensome to them. Since women in rural areas are not well versed in business, failure in doing business creates difficulties for them to repay the credit due to the high rate of interest.

2.8.1 Income Happiness Paradox

Easterlin, Switek, Zweig (2010) discusses that the striking thing about the happiness-income paradox is that over the long-term usually a period of 10 years or more happiness does not increase as a country's income rises. Heretofore the evidence for this was limited to developed countries. This article presents evidence that the long

term nil relationship between happiness and income holds also for a number of developing countries, the eastern European countries transitioning from socialism to capitalism, and an even wider sample of developed countries than previously studied. It also finds that in the short-term in all three groups of countries, happiness and income go together, i.e., happiness tends to fall in economic contractions and rise in expansions. Recent critiques of the paradox, claiming the time series relationship between happiness and income is positive, are the result either of a statistical artifact or a confusion of the short-term relationship with the long-term one. However, most of the studies found that more money brings more happiness. Aknin *et al*,. (2013) examined the correlation between charitable giving and happiness in 136 countries. In 120 out of 136 countries, there was a positive relationship between income and happiness. Shabbir and Gregorio (1996) found in Pakistan, freedom seekers were mostly women, who had some kind of dissatisfaction in their paid work and who wanted to start their own business in order to choose the type of work, hours of work, work environment and the people they worked with but most of the women faced the financial barriers in starting their own business. The problem of dissatisfaction and starting personal business cannot be resolved without money, as money generates money or services generate money. Now, women are being supported globally. Various programs serve women by providing them with financing. Microfinance is one kind of financial service that targets especially women. Microfinance involves women in micro business and other income generating activities so to as empower

them and to make women happy (Yasmeen and Zaini, 2014). Owsald (2011) found that educatin and microfinance has positive impact on women's happiness. Bandyopadhyay *et al.*, 2011 and Becchetti, 2009 found positive significant impact of loan on happiness. Microfinance is a kind of money which involves borrowers in tinny business and it can have the short run impact on borrowers' happiness. So, the income happiness paradox" is related to this study.

2.8.2 Effect of Microfinance on Women's Happiness

There are few studies that examine the effect of microfinance on women's happiness. Besides the variables microfinance, the study also includes other factors like age, education, marital status, family size and personal income as control variables. Becchetti and Conzo (2013) states that Microfinance Institutions (MFIs) used to claim that their impact goes beyond money since rescuing from exclusion uncollateralized poor borrowers significantly affects their dignity, self-esteem, social recognition, future economic perspectives and, life satisfaction. The purpose of their study is to verify the validity of this claim by evaluating whether access to microfinance loans has a significant direct impact on life satisfaction beyond its indirect impact via current income changes. Empirical findings on a sample of poor borrowers in the suburbs of Buenos Aires show that, after controlling for survivorship, selection and interview bias, microfinance membership have a significant and positive effect on life satisfaction.

Becchetti (2009b) analyses the effect of microfinance institution participation on life satisfaction. He uses age, family size, marital status, wealth, job experience saving besides micro credit as independent variables. By using OLS and profit model and measures satisfaction by asking questions to borrowers about health, personal relation and security of their finances/livelihoods, he found significant impact of microfinance on all indicators of satisfaction. He evaluates the impact of change in income due to microfinance on life satisfaction. The results of his study show the positive impact of microfinance on borrower's life satisfaction as the number of microfinance credit cycles has a significant and positive effect on life satisfaction.

2.8.3 Other Factors Affecting Women's Empowerment and Happiness

There are many other factors that affect women's empowerment and level of happiness. Many studies have also been undertaken to examine other factors affecting women's empowerment and happiness.

Parveen (2004) analyzes the determinants of rural women empowerment and offers a strategic framework for improving rural women empowerment level. The study examines the impact of microfinance on three dimensions of women empowerment which are socioeconomic, familial and psychological dimensions. The primary data (combination of quantitative and qualitative data) were collected from three villages in the district of Mymensingh. The data was collected from156 rural women by using the stratified random sampling method. To measure women's empowerment, six

empowerment indicators are used which contribute to household income, access to resources, ownership of assets, participation in household decision making and gender awareness. The independent variables included in this study are formal and non-formal education, gender of children, spousal relationship, media exposure, spatial mobility and traditional social cultural norms. The results of the analysis show that the formal and non-formal education, media exposure and spatial mobility have positive and highly significant effects on cumulative women empowerment indices.

Rehman and Naoroze (2007) investigate the determinants of women empowerment through participation in aquaculture activities. The study was conducted in two districts of Bangladesh and the target population of the project was female members belonging to farm families and were involved in aquaculture activities for at least last three years. The data was collected through the structured questionnaires via face to face interview from a sample of 200 women that were selected on a random basis. The five measures of empowerment selected for this study are women decision making ability within the family, spending ability, cosmopolitanism, social participation and access to assets and resources. Decision making within the family was measured through the indicators of education of children, health, celebration of social and religious events, entertainment, family planning methods, livestock buying and daily household expenditures. The independent variables used in this study are age, level of education, family size, family farm size, area under aquaculture, family annual income and level of participation in aquaculture activities. The total empowerment

score was obtained by summing up the scores obtained from all the measures of empowerment. The findings show improvement in women empowerment through the mean empowerment scores; before participation was 39.60 percent but after participation, scores increased to 45.62percent. Analysis shows that women empowerment is positively and significantly correlated with education, media contact, training exposure and participation in aquaculture. However, age, family size, family farm size, area under cultivation and annual income are not significantly correlated with women empowerment through participation in aquaculture.

Chaudary and Nosheen (2009) argued that women empowerment is one of the important issues of present day development policies in developing countries. Since empowerment is a multidimensional concept, it is determined by many socioeconomic factors and cultural norms. The study attempts to explore the determinants of women empowerment by using regression analysis. The data were collected from Punjab province, especially from the rural, urban and tribal areas. The status of women is much more vulnerable in rural and tribal areas and they have very limited access to all basic facilities. The results show that age, married women and women having Islamic view have statistically positive impact on women's empowerment.

Oswald (2004) gave the idea that there exists a reported well-being in happiness of economics function. He studies the demographic status to check whether it is related

to the satisfaction level. To achieve the objectives, he used probit and logit model to examine the relationship between variables and happiness. The result of analysis show age, education, family size, income and experience of job are positively related with the happiness.

Taylor *et al.* (2009) document in their empirical analysis on the British Household Panel Survey that financial capability has a significant and positive impact on life satisfaction and health reducing by 15 percent the possibility that an individual suffer from anxiety or depression. This implies that, if the same nexus holds also in poor countries, part of the microfinance effect on life satisfaction may be due to the enhanced financial capability (provided that the borrower successfully repays). The life satisfaction empirical literature has examined the relationship between happiness and several determinants such as income (see, among others, Clark *et al.*, 2005; Di Tella *et al.*, 2005; Easterlin, 1995, 2000; Ferrer-i-Carbonell and Frijters, 2004; Ferrer-i-Carbonell, 2005; Frey and Stutzer, 2000; Ravallion and Lokshin, 2001 and Winkelmann, 1998) employment status (Winkelmann, 1998) marital status (Argyle, 1999; Blanchflower Oswald, 2004; Frey Stutzer, 2002, 2006 and Johnson-Wu, 2002;) unemployment and inflation (Clark and Oswald, 1994; Gallie and Russell, 1998; Tella *et al.*, 2001, 2003) and many other factors.

2.9 Remarks on the Literature Review

In the light of the above literature review, we identify several gaps in the literature. Previous studies (by Becchetti, 2009, and Bandyopadhyay *et al.*, 2011) do not provide any detail about the impact of microfinance institution particularly on woman's client's happiness. Mayoux (1997) and the International Labor Organization (1998) stated that women face cultural and social barriers. As they represent a large proportion of the population, it is important to discuss in terms of women's empowerment. Males might have a high happiness level as they do not have social barriers while the level of happiness among women might be low as they feel stress due to social barriers, hurdle in movement, and restrictions on having social contacts. Hence, providing details about the impact of microfinance on woman's client's happiness is important. However, previous studies (Becchetti, 2009) in examining the impact of microfinance on satisfaction, did not mention clearly which type of questions were used in measuring the satisfaction level of individuals. It is important to mention that economists are too much restricted about questions used in survey to measure satisfaction levels and other dimensions of happiness. In measuring happiness, economists do not believe on such question "do you feel you are satisfied with your life". Economists argued that the question should express in the recent days to measure happiness, like "taken all together, how you would say things are these days" (Oswald, 2012). Csikszentmihalyi (1990) states that "well-being in happiness of economics should be measured in real time as well as in survey forms". The

Experience Sampling Method needs participants to carry a handheld computer that prompts them many times during the course of the day (or days) to answer a set of questions immediately Bertrand and Mullainathan (2001) states that people may overstate their happiness level in order to maintain their self-esteem over the interviewer, whilst situational factors such as mood and weather may affect their responses at the time of the survey. So, we need to ask the question to respondents in real time, like "Now days are you" or" these days". Hence, even if a researcher uses good model to measure the variables, but does not ask correct questions in the questionnaire/survey to measure the variable as economist suggest, the findings can be suspicious. There are no studies that discuss the method of asking questions in the questionnaire.

Previous studies (Nessa, 2011; Parveen, 2007; Sukontamam, 2007) look only at the creation of women empowerment through the MFIs in different sectors and the effects of women empowerment. However, there are only two studies that examine the impact of microfinance on empowerment and happiness (Becchetti, 2009 and Bandyopadhyay *et al.*, 2011). Bandyopadhyay *et al.* (2011) highlights the impact of microfinance on selected indicators of happiness. Bandyopadhyay selected the impact on Gross National Happiness and Standard of living while Becchetti (2009) studied out the impact of microfinance on overall self-esteem, dignity, social recognition and, through it, life satisfaction. However, there are several issues with these studies.

First, above mentioned studies (Becchetti, 2009 and Bandyopadhyay *et al.*, 2011) do not provide any detail about the impact of microfinance institution particularly on woman client's happiness. Their studies do not aggregate the effect of microfinance on males and females' borrowers while this study analayze the impact of microfinance on women's happiness. Second, to our knowledge, there are few studies that analyses the impact of women empowerment on satisfaction.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter spells out the methodology which is used in analyzing the impact of microfinance on women empowerment and happiness in the Cholistan Bahawalpur, Punjab, Pakistan. This chapter outlines the relevant hypothesis concerning the relationship among microfinance, women empowerment and happiness. It highlights the empirical model, study approach, measurement of variables, survey instrument, data collection procedure and hypotheses of the study. Finally, this chapter serves as a finger post to the econometric analysis to peruse the mode of analysis and to fulfill the objectives of the study.

3.2 Conceptual Framework

To craft the study, this study discusses the theoretical framework that underlying the analysis. Different variables that are used in previous studies are discussed to act as a control in analyzing the impact of microfinance on women empowerment and happiness. From this theoretical framework we design the empirical model of this study. In specific terms, the theoretical research framework guides how variables are included in measuring the impact of microfinance on the women empowerment and happiness.

Generally, income has an impact on women empowerment and happiness. Oswald (2006) states that high level of income shows a high level of happiness. Hence, to empower women, they have to be independent and should have their own source of income. One way for women to have their own income, is by involving themselves in small scale business. However, women lack the capital to venture into business. Since the problem of women's empowerment and happiness cannot be resolved without having capital, microfinance is a kind of financial service that can be a source of financing for microfinance target women. Hence, microfinance can empower women by getting themselves involved in small scale businesses. According to the general theory of gender stratification, with greater economic power, women gain more say in economic decisions, household decisions and freedom of movement of freedom.

Cheston and Kuhn (2002) study the role of microfinance programs on women's empowerment, family planning and cultural norms. They conclude that microfinance programs have significant impact on political empowerment and women's rights. Noreen (2010) studied and found positive impact of microfinance on women's economic and household decision. Hunt and Kasynathan (2002) also found positive impact of microfinance on economic growth and women's income generating activities. Nessa (2011) found the significant impact of microfinance on women empowerment in five dimensions; economic decision making, household decision making, freedom of movement, ownership of property and political and social awareness. Gobbi (2005) concluded that microfinance has a positive impact on the

legal framework, local culture, social rules, religious customs and traditions that create obstacles for potential women empowerment. Mayoux (2006) argued in his paper that microfinance has a significant potential to enable women to challenge and change gender inequalities at all levels. Rehman and Khan (2007) argued in their paper that microfinance has a positive impact on poverty reduction, women's empowerment, health, education, legal rights, and standard of living. Kassam (2004) analyzed the positive impact of microfinance on women's empowerment. In the case of happiness, Oswald (2004) analyzed the positive impact of microfinance on well-being (happiness) while Becchetti (2009) also found positive effects of microfinance institutions on life satisfaction.

Different variables are used by different researchers as other independent variables to study the impact of microfinance on women's empowerment and happiness. Most of the studies include age, education, family size, annual income, marital status, area and loan size as the other independent variables. The question is why different researchers incorporate age, education, family size, annual income, marital status, area and loan size in their studies to check the impact of microfinance on women's empowerment and happiness. This study analyses each of these variables below.

Age is an essential demographic characteristic which influences women empowerment. With the passage of time, experience increases and wise decisions come with experience. Hence, age has impacted on improving the empowerment and happiness

of women. Mason (1986) argued that women's behavior differs across the stages in the life cycle. This statement is favored by Handy and Kassam (2004) and Mustafa *et al.* (2008). the results of their studies show that older women involve in microfinance have more empowerment than younger women. Hence, it is expected that age of respondent is positively related to women's empowerment.

Education has an impact on women empowerment and happiness as education leads to knowledge and knowledge opens doors of understanding that result in high empowerment and happiness. Hence, education has been pointed out as a key indicator of empowerment by various literatures (Malhotra *et al.*, 2002). Several variables have been traditionally used as proxies for empowerment, such as education and employment; these are well explained as enabling factors or sources of empowerment (Kishor, 2000). Empowerment also contains psychological and cognitive elements, such as women's understanding of her condition of subordination and the reasons of such circumstances. This needs an important understanding about self, social and cultural expectations, which can be enabled through education (Stromquist, 1995).

Banu *et al.* (2000); Becchetti (2009); Hasherni *et al.* (1996) and Parveen (2007) use family size to examine the impact of micro finance on women's empowerment and happiness because numbers of household members have an impact on women's empowerment and happiness. Sara (2011) found that the existence of sons has a positive effect on women's empowerment. Tuseef (2011) found that family size is

positively correlated with women's empowerment. This is because in large family, they are able to take care of the family members in term of food servicing, cloth servicing, and health etc. hence, when a female faces any problem she is supported morally and financially by her family member.

Bandyopadhyay *et al.* (2011); Banu *et al.* (2000); Becchetti (2009); Hasherni *et al.* (1996) and Parveen (2007) use marital status to study the impact of microfinance on women empowerment and happiness because it is supposed that if the female is married, she feels more confident and believes her life partner helps her in good and bad times. Hence, marital status has a significant effect on the use of microfinances and hence empowerment.

Noreen (2009) and Tuseef (2011) use the annual income to control for the impact of micro finance on women empowerment and happiness. Annual income is expected to be positively related with the women's empowerment and happiness because purchasing power facilitates empowerment. Mayoux (2005) states that the spiral process of women empowerment includes three paradigms (financial self-sustainability, poverty alleviation and feminist empowerment). In the case of financial self-sustainability paradigm, increasing income create women control over their income that increases wage and employment for women. In the case of poverty alleviation paradigm, income enhance women's decision about consumption, which increases the welfare of women which further enables them to bring about wider changes in gender inequality.

Lastly, in the case of feminist empowerment paradigm, income increases the women's status and improves her ability to negotiate changes in gender relation. Subsequently, increasing wage, employment opportunity and ability to negotiate bringing changes in gender relation increases mobility and knowledge of social, legal and political issues.

Banu *et al.* (2000); Bandyopadhyay *et al.* (2011); Becchetti (2009); Hashemi *et al.* (1996) and Parveen (2007) use the loan size to control for the impact of microfinance on women empowerment and happiness because if a female has a larger loan size she can start a good business and can earn more. Amount of loan positively affects the empowerment of woman when the loan is utilized by the woman. Goetz and Sengupta (1996) argue that the amount of loan can influence the effect of microfinance on women's empowerment.

3.3 Empirical Model

In the light of previous studies, this study selects the dependent and independent variables to design the empirical model. Besides the variables microfinance as one of the independent variables, we include other factors as control variables.

3.3.1 Women's Empowerment Models

Details of the models are given below:

(a) Models for Women's Economic Decision Making Empowerment

Model 1 includes microfinance involvement as dummy variable in empowering women's economic decision making empowerment.

$$WE = \beta_0 + \beta_1 Age_i + \beta_2 Edu_i + \beta_3 FSize_i + \beta_4 Inc_i + \beta_5 MS_i + \beta_6 MFI_i + \beta_7 (MFI * Edu)_i + ei \ldots (1)$$

Where WE is women's economic decision making empowerment, age is age of the respondent, Edu is the education level of the respondent, FSize is the family size of the women, Inc is the annual income of the respondent, MS is the marital status of the respondents and MFI is the dummy variable for women's involvement in microfinance. MFI=1 if the respondent is involved in microfinance.

Model 2 include loan size as the independent variable.

$$WE = \beta_0 + \beta_1 Age_i + \beta_2 Edu_i + \beta_3 FSize_i + \beta_4 Inc_i + \beta_5 MS_i + \beta_6 LSize_i + \beta_7 (LSize * Edu)_i + ei \ldots (2)$$

Where LSize is the size of loan. Other variables remain the same.

(b) Models for Women's Freedom of Movement Empowerment

Model 3 include microfinance involvement as a dummy variable.

$$WM = \beta_0 + \beta_1 Age_i + \beta_2 Edu_i + \beta_3 FSize_i + \beta_4 Inc_i + \beta_5 MS_i + \beta_6 MFI_i + \beta_7 (MFI * Edu)_i + ei \ldots (3)$$

Where WM is the women's freedom of movement. other variables remain the same.

Model 4 include loan size as the independent variable.

$$WM = \beta_0 + \beta_1 Age_i + \beta_2 Edu_i + \beta_3 FSize_i + \beta_4 Inc_i + \beta_5 MS_i + \beta_6 LSize_i + \beta_7 (LSize * Edu)_i + ei \ldots (4)$$

Where all variables are as previously defined.

(c) Models for Women's Satisfaction (Happiness)

Model 5 includes microfinance involvement as a dummy variable

$$WS = \beta_0 + \beta_1 Age_i + \beta_2 Edu_i + \beta_3 FSize_i + \beta_4 Inc_i + \beta_5 MS_i + \beta_6 Wemp_i + \beta_7 MFI_i + \beta_8 (MFI * Edu)_i + ei \ldots\ldots\ldots (5)$$

Where WS is the women's satisfaction and Wemp is the women's empowerment

Model 6 include loan size as the independent variable.

$$WS = \beta_0 + \beta_1 Age_i + \beta_2 Edu_i + \beta_3 FSize_i + \beta_4 Inc_i + \beta_5 MS_i + \beta_6 Wemp_i + \beta_7 LSize + \beta_8 (LSize * Edu)_i + ei \ldots\ldots\ldots (6)$$

Where all the variables are previously defined.

As both of the variables, women's empowerment and happiness are qualitative variables, this study employed the estimation of multinomial Logit and Probit model to measure the impact of microfinance on women's empowerment and happiness.

The model is the foundation on which the entire research project is based. It identifies the network of relationships among the variables considered important to the study of given problems. In the light of the model to analyze the impact of microfinance on

women's empowerment and women's satisfaction to life, this study selects the women's economic decision making empowerment, women's freedom of movement empowerment and women's satisfaction to life as the dependent variable while age, education, family size, annual income, marital status, involvement with microfinance and loan size are taken as independent variables. The model presented can be summarized in Figure 3.1 and Figure 3.2. The figure shows that the two dependent variables are affected by the independent variables. Figure 3.1 shows the case where involvement in microfinance variable (included as dummy variable) is used as a measure of microfinance variable. On the other hand, Figure 3.2 includes loan size as a measure of microfinance variable.

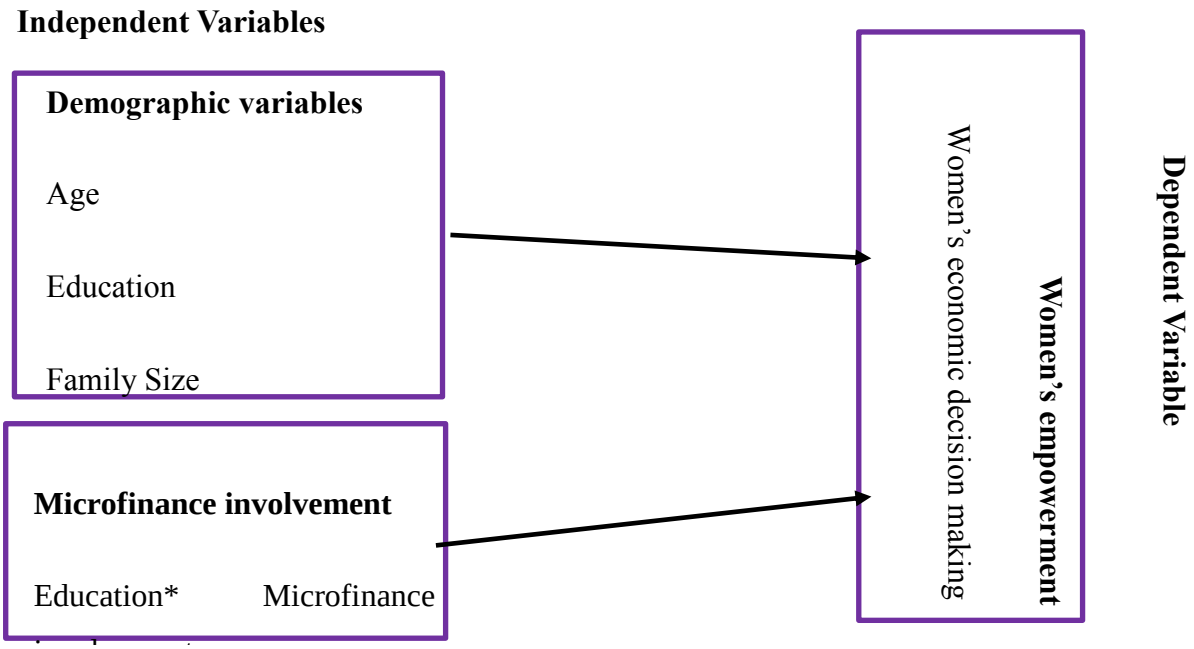

Figure 3.1:

Relationship among the Variables by Including Microfinance Involvement asone of the Factor Affecting Women's Empowerment.

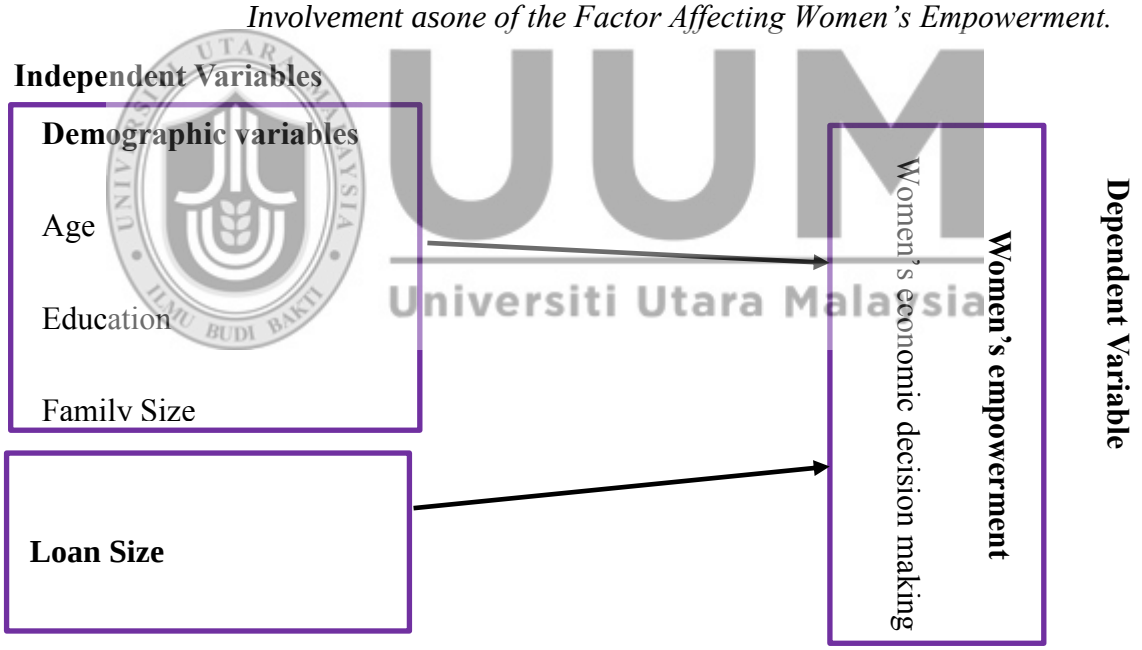

Figure 3.2:

Relationship among the Variables by Including Loan Size affecting Women's Empowerment

3.3.2 Women's happiness

In the light of the model to analyze the impact of microfinance on woman's happiness, the present study selects the women's satisfaction as the dependent variable while age, education, family size, annual income, marital status, involved with microfinance, loan size and women empowerment are taken as independent variables. The model presented is summarized in Figure 3.3 and Figure 3.4. The three dependent variables are shown to be affected by the independent variables.

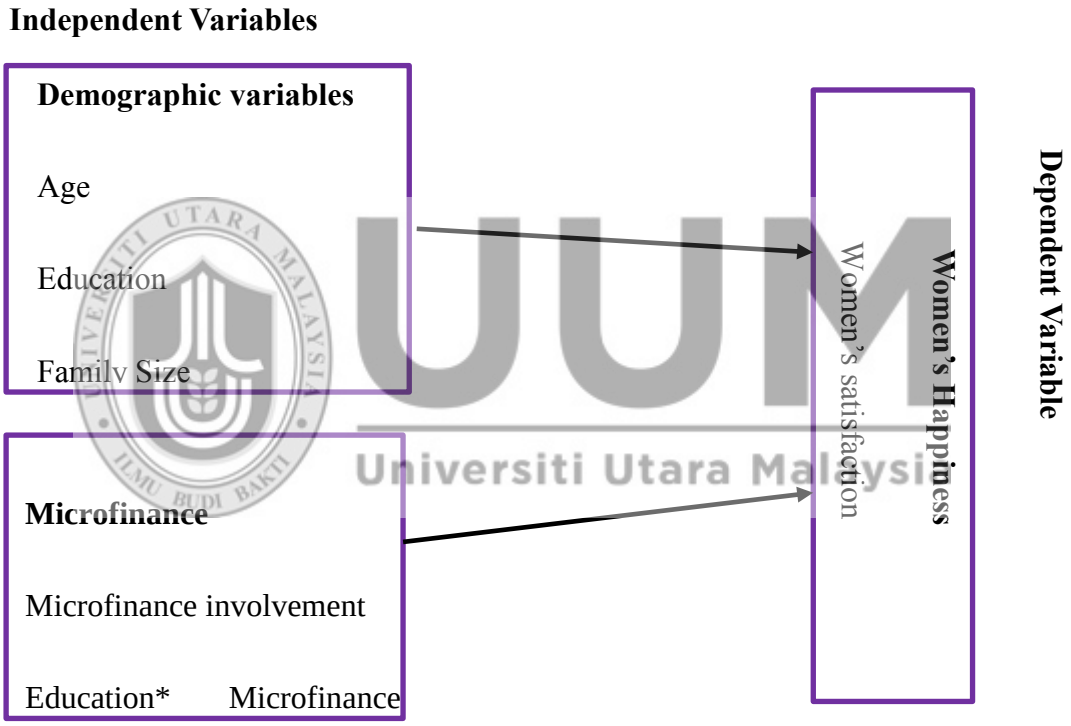

Figure 3.3:
Relationship among the Variables by Including Microfinance affecting Women's Satisfaction.

Independent Variables

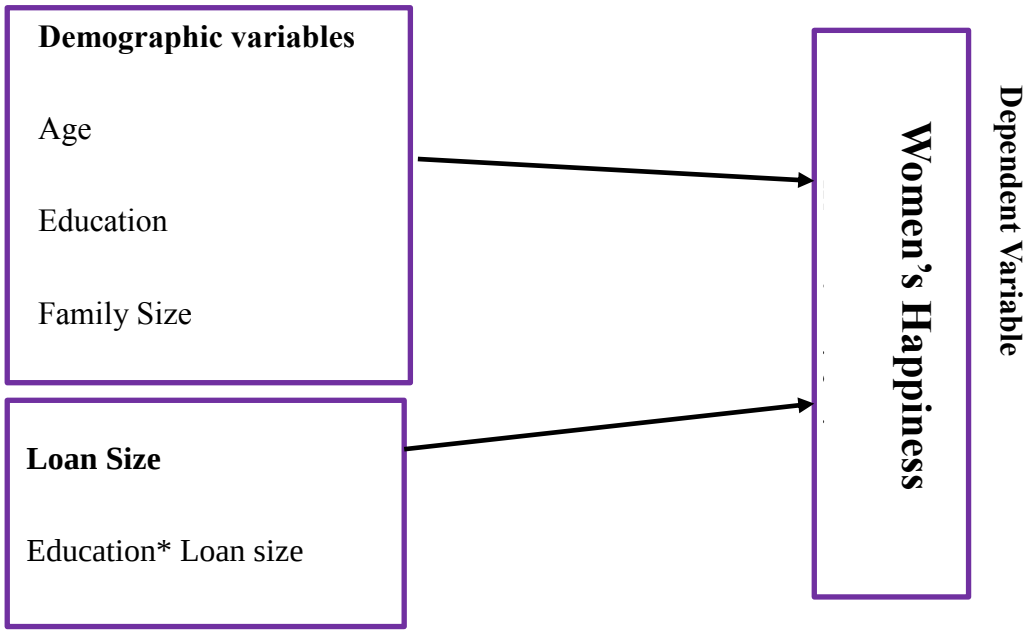

Figure 3.4:
Relationship among the Variables by Including Loan Size affecting Satisfaction

3.4 Definition and Measurement of the Dependent Variables Presented in the Empirical Model

In this subsection all the variables used in the model estimation are explained. In the analaysis, we include several items as a measure of women's empowerment (for both WE and WM). Besides that, we also include a single question that asks in general, the overall level of women's empowerment.

We made comparison between the average value of several items and the overall level of women's empowerment. We found that the result of the empowerment level is similar between the two.

The same process is done in the case of women's satisfaction. We include several items as a measure of women's satisfaction. Besides that, we also include a single question that inquires in general, the overall level of women's satisfaction. We also found that the result of the satisfaction level is similar between the two. Stevenson and Wolfers (2009) measured the happiness in real time on the base of three category response very happy, pretty happy, and not too happy".

Economic decision making empowerment, household decision making empowerment, freedom of movement empowerment, ownership of property empowerment and political and social empowerment are the five dimensions of women empowerment (Yasmeen and Karim, 2014). Gazdar, (2005), Mmtaz (2007), Shareef *et al*.(2012) and Sathar and Kazi (1997) found that Pakistani women are less empowered in regards to economic decision making and freedom of movement. Asim (2009) indicated that women in Pakistan can make household decisions like purchasing food and grocery for household but they cannot make economic decision; economic decisions include decisions relating to selection of spouse, number of children, purchases of TV/Refrigerator, house repair and sale/purchase of house. These economic decisions generally fall within the domain of male-only decisions in patriarchal societies.

Women in Pakistan don't have right to choose a spouse and decide on the number of children; such decisions are made by men (Shareef, 2014). So, that's why in this study the economic decision making will be analyzed rather than household decision making. Ownership, empowerment and political empowerment are also important dimensions of women empowerment but for women, freedom of movement and economic decision making empowerment are the basic needs and rights. In Pakistan, majority of the women are not even allowed to avail the health facilities independently instead they have to rely on male members of their family to see doctors or to visit relatives (Pasha and Palanivel, 2003).

A woman can survive without having ownership and participation in political party but it is difficult for her to survive without physical mobility. So this study determines the freedom of movement rather than property ownership and political empowerment. Additionally, the rural culture of Cholistan and other backward areas of Pakistan are strongly supported by their custom and traditional background that leads condense to the strong objection of the society for a women's participation in political activities and property right. So, on the basis of previous studies on Pakistani women, this study selects only two dimensions among the five dimensions.

Satisfaction, quality of life and well-being are the dimensions of happiness. The social training of the Pakistani parents to their girls is to be happy on the available resources provided by husbands. Traditions support women, when she is satisfied with

subsistence level of quality of life and well-being rather than demanding for economic and high level of quality of life and well-being. Women's satisfaction includes health security, financial security and sexual relationships and overall relationships with family. Traditionally, woman in Pakistan can live without enjoying a high level or standard level of quality of life and well being but living without good relationships with husband is difficult for her. In Pakistan, women are desirous to have agreement with husbands on variety of matters including finances, visiting friends and relatives, household responsibilities, relationships etc. Disagreement to male members of the society leads to conflict which diminishes their satisfaction to life (Sadiq, 2014). In addition, Ali and Haq (2006) recommend that future researchers should focus on women's life satisfaction. So on the basis of previous studies on Pakistani women, this study chooses only one dimension (one satisfaction) among the various dimensions of happiness.

3.4.1 Economic Decision Making (WE)

Economic decision making (WE) measure the women's economic decision-making ability (WE) within a family. This dimension indicates how women spend their own income, providing financial help to others, purchase without permission, how to spend family income, expenditure on children's education, expenditure on health, buying gifts for social functions, lending and borrowing money, clothing purchase, livestock purchase, emergency fund managing, expenditure on daily food, van/ rickshaw purchase and lease on land. The respondents are also required to answer the question

“Keeping in view all above mentioned indicators (From item No 12 to 26) how do your overall rate your economic decision making”? To measure these variables it is compulsory for the respondents to answer the questions in the questionnaire with regards to economic decision-making ability. The measurement scale is "0" for no ability, "1" for sometimes ability and "2" for full ability.

3.4.2 Freedom of Movement Empowerment (WM)

Freedom of movement empowerment (WM) measure the women's freedom of movement ability within a family, going to shop alone, visiting relatives, going outside the home without permission, going outside the village alone, going outside the home alone, going to movies alone, going to the bank alone, going to local government offices alone, going outside the city alone and going to the health center alone. The respondent is also required to answer the question “Keeping in view all above mentioned indicators (From item No 27 to 36) how do your overall rate your freedom of movement”? The measurement scale is "0" for no freedom "1" for sometimes freedom and "2" for full freedom.

3.4.3 Satisfaction (WS)

Satisfaction (WS) measures the women’s satisfaction in two stages; on first stage, the respondents are asked the question,“ Taking all together, are you currently satisfied with your life as a whole?.” The respondents are also required to answer “Keeping in view all above mentioned indicators (From item No 1 to 4) these days, how do you

overall rate your satisfaction"? She is required to answer about her satisfaction level regarding her health, daily life and relationship with the family members, etc. The measurement scale is "0" for not satisfied, "1" for sometime satisfied and "2" for fully satisfied.

3.5 Definition and Measurement of Independent Variables

The present study includes some important socioeconomic related variables as a control for analyzing the impact of microfinance on women's empowerment and happiness. Explanations of the variables are as follows.

3.5.1 Age (Age)

Age refers to Age. The age of a respondent (Age) is expressed in years and it is well-defined as the phase of time from her birth to the time of the interview. Age is an essential demographic characteristic which influences women empowerment. Handy and Kassam (2004) and Mustafa *et al.* (2008) show that older women have more empowerment than younger women. Older women have more independence and empowerment than younger women as they are richer in life experience and have a better understanding of how to get what they want. Hence, it is expected that age of respondent positively influences women empowerment.

3.5.2 Education (Edu)

Education (Edu) level is expressed in years and is measured as the maximum year of schooling completed. If there is no level of education for individual the value is zero.

Education has been pointed out as a key indicator of empowerment by various researchers (Malhotra *et al.,* 2002). Several variables have been traditionally used as proxies for empowerment, such as education and employment; these are well explained as "enabling factors" or "sources of empowerment" (Kishor, 2000). Empowerment also contains psychological and cognitive elements, such as a women's understanding of her condition of subordination and the reasons of such circumstances. This needs an important understanding about self, social and cultural expectations, which can be enabled through education (Stromquist, 1995). Hence, it is expected that education of respondent positively influences women empowerment.

3.5.3 Family Size (FSize)

Family size of women (FSize) is calculated by the number of individuals of household who live under the same roof and eat together. Banu *et al.* (2000), Becchetti (2009), Bandyopadhyay *et al.* (2011) and Hashemi *et al.* (996), use family size as one of the variable to examine the impact of micro finance on women's empowerment and happiness. Tuseef (2011) found that family size is positively correlated with women's empowerment. This is because in large family, they have to take care of the family members' in terms of food servicing, cloth servicing, and health etc. When female faces any problem she is supported morally and financially by her family members. Hence, it is expected that family size of respondent positively influences women empowerment.

3.5.4 Marital Status (MS)

Marital status (MS) is measured as either married or unmarried. This study used a dummy variable for the marital status of respondents (MS =1 if married, 0 if unmarried). Becchetti (2009) and Bandyopadhyay *et al.* (2011) use marital status as one of the independent variable to examine the impact of microfinance on women empowerment and happiness. They found a positive effect of marital status on women's empowerment as it is supposed that if the female is married, she feels more confident and believes her life partner could help her in good and bad times. Hence, marital status has a positive effect on empowerment. However, Asim (2009) found that there is no impact of marital status on women's freedom of movement empowerment. Hence, it is expected that marital status of respondent positively influences women empowerment.

3.5.5 Annual Income (Inc)

In this study, annual income (Inc) is expressed as the total earnings of a respondent from women's micro business, which is defined and expressed in rupees (1 USD = PKR 99). Noreen (2009) and Tuseef (2011) use the annual income as one of the independent variable to examine the impact of micro finance on women's empowerment. They suggested that annual income (Inc) is positively related to women's empowerment and happiness. Annual income (Inc) is expected to be positively related to women's empowerment and happiness because purchasing power facilitates empowerment. Mayoux (2005) argued that the spiral process of women

empowerment includes three paradigms (financial self-sustainability, poverty alleviation and feminist empowerment). In the case of financial self-sustainability paradigm, increasing income creates women's control over their income that further increases earnings and employment for women. Whereas poverty alleviation paradigm suggests that income enhances women's decision on consumption which increases the welfare of women. This enables women to bring about wider changes in gender inequality. Lastly, in respect of feminist empowerment paradigm, income increases women's status and hence, improves their ability to negotiate changes in gender relation. Increasing wages and employment opportunity and ability to negotiate changes in gender relation increases mobility and knowledge of social, legal and political issues. Hence, it is expected that annual income of respondents influences women's empowerment positively.

In general, people can argue that income also depends on empowerment. However, there is no evidence in the literature that provides any argument or evidence on the impact of empowerment on income.

3.5.6 Loan Size (LSize)

Loan size (LSize) is measured through the loan amount which was taken by the woman respondent (expressed in rupee, 1USD = PKR 99) from Khushhali Bank and National Rural Support program working in Bahawalpur, Punjab province of Pakistan. Bandyopadhyay *et al.* (2011); Banu *et al.* (2000); Becchetti (2009); Hashemi

et al. (1996) and Parveen (2007) found that loan size has a positive impact on women's empowerment and happiness. Bandyopadhyay *et al.* (2011) use the loan size to examine the impact of microfinance on women empowerment and happiness because if a female has a larger loan size she can start a good business and can earn more. Amount of loan positively affects the empowerment of woman when the loan is utilized by the woman. Goetz and Sengupta (1996) argue that the amount of loan can influence the effect of microfinance on women's empowerment. Hence, it is expected that loan size of respondent positively influences women empowerment.

3.5.7 Women Empowerment (Wemp)

Wemp is the overall women's empowerment. It is calculated as the average of dimension WE and WM. It is included to examine whether women's empowerment affect satisfaction.

3.6 Hypotheses of the Study

Based on the discussion on section 3.5, the following hypotheses were formulated.

H_1: Women who are involved in microfinance programs are more empowered in the economic decision making than women who are not involved.

H_2. The effect of microfinance programs on women's economic decision making empowerment depends on education.

H_3: Women who are involved in microfinance programs are more empowered in terms of freedom of movement than women who are not.

H_4. The effect of microfinance on women's empowerment in the freedom of movement depends on education.

H_5: Women who are involved in microfinance programs are more satisfied than the women who are not.

H_6: The effect of microfinance on women's satisfaction depends on education.

H_7: There is significant impact of women's empowerment on women's satisfaction to life.

3.7 Model Estimation: Multinomial Probit and Multinomial Logit Model

Since the dependent variable is qualitative and there are more than two options, multinomial choice models are used in estimating the relationship. Multinomial logit and multinomial probit are the popular multinomial choice models. For this study, since the dependent variable (women empowerment and women's happiness) is qualitative in nature, this study used both multinomial probit and multinomial logit model. McFadden and Train (2000) explained that a multinomial logit (MMNL) model is for discrete response.

Hedeker (2003) stated that multinomial logistic regression model is described for analysis of nominal and ordinal response data. However, the multinomial probit can be applied only when there is a small number, usually three alternatives because for categories of four or more, numerical integration to obtain orthant probabilities is too costly for practical application in iterating likelihood maximization (Maddala 1983; McFadden 1984; Park and Kerr, 1990). Mandal and Hajra (2012) measured the subjective empowerment that was qualitative in nature, the researcher applied the multinomial logit model to examine the impact of income and education on women empowerment. Ali and Haq (2006) applied the multinomial logit model to examine the impact of education and decision making authority on happiness. In the light of previous studies, this study addresses both women's empowerment and happiness is measured in subjective measurement, the ordinal responses are divided into three categories. The responses are in discrete values. We applied multinomial logit model to achieve the objective of the study. To verify that the results of the estimation of the multinomial logit model are robust, this study also estimated by using the multinomial probit model.

Multinomial probit and multinomial logit models are technically similar; both are different only in the distribution of the error terms. Multinomial logit models have errors which are independent and identically distributed as per to the type-1 extreme value distribution, which is also known as log Weibull distribution. The multinomial probit model has errors which are not essentially independent, and are distributed as

per to a multivariate normal distribution (Greene, 2000). This difference between multinomial probit and multinomial logit models may look rather minor, but in practice it has a large effect. The independent errors of multinomial logit model force an assumption called the independence of irrelevant alternatives assumption. Basically, independence of irrelevant alternatives needs that an individual evaluation of an alternative, relative to another alternative should not change if a third (irrelevant) alternative is added to or dropped from the analysis. When the independence of irrelevant alternatives is violated, multinomial logit model is incorrectly specified and its coefficient estimates are inconsistent.

3.7.1 Multinomial Logit Model (MNLM)

The multinomial logit (MNL) model is widely used in discrete choice models due to its closed-form choice probabilities and its consistency with the random utility maximization (RUM). The generalization to more than two alternatives, referred to as Multinomial Logit Model, shows each response probabilities, and the estimation of probabilities, $\times_{ij}$ of each observation based on the decisions of individuals. According to Ben-Akira (1999) the MNL is derived from the assumptions that the error terms of the Utility functions are independent and identically Gumbel. In multinomial logit model, we assume that the log-odds of each response follow a linear model – that what we need is only j-1 equations to describe a variable with j response categories. It can also be written in terms of the original probabilities p_{ij}. The MNL model suffers from restrictive independence from irrelevant alternatives (IIA)

property, which states that the ratio of two choice probabilities is independent of the other alternatives in the model even when a new alternative is introduced in the choice set. An individual is assumed to have choice defined over a set of alternatives. The alternatives in this case relates to options related to choice (no inability, sometimes inability, full inability, no freedom, sometimes freedom, full freedom, not satisfied, sometimes satisfied and fully satisfied) shows the women's empowerment and happiness (j=0,1,2).

3.7.2 Assumptions of MNL Formulation:

1. The first assumption is that the random components of the utilities of the different alternatives are independently and identically distributed (IID).
2. The second assumption of the MNL model is that it maintains the homogeneity in responsiveness to attributes of alternatives across individuals (*i.e.*, an assumption of response homogeneity).
3. The third assumption of the MNL model is that the error variance-covariance structure of the alternatives is identical across individuals (*i.e.*, an assumption of error variance-covariance homogeneity).

These assumptions define mutual exclusiveness of alternatives with same variance-covariance, and identical error covariance of alternatives across individuals may not be appropriate if the extent of substitutability among alternatives differs across individuals.

Women's empowerment and happiness are affected by different factors $Xi_{,}$ (age, education, family size, annual income, marital status, and microcredit). The use of standard linear regression model such as:

$Y_i = \beta_0 + \beta_1 \boldsymbol{X_i} + \varepsilon_i$ which correlates the discrete choice y_i with the explanatory variables x_i does not lead to a satisfactory model because this model produces both undefined probabilities and negative variances (Greene, 2008). The probabilities that an individual will choose an alternative j given by explanatory variable $\times_i$ is:

$$\Pr(y_i = j| \times_i = \frac{\exp(\beta_{0,j}+\beta_{1,j}\mathbf{x_i})}{\sum_{j=0}^{2}\exp(\beta_{0,j}+\beta_{1,j}\boldsymbol{x_i})} \qquad (1)$$

Where x_i is a 1 x (k_x+1) matrix of explanatory variables including the elements 1 to model the intercept β_j is a (k+1) dimensional parameter vector, which is the multinomial logit model (MNLM). This study has three relevant dependent variables; women's economics decision making (WE), women's freedom of movement (WM) and women's satisfaction (WS). For the women's economics decision making (WE) and freedom of movement (WM), there are six independent variable while for the satisfaction (WS), there are seven independent variables. Hence, the MNL model for each of the cases can be written as follows:

$$Pr\,(y = j|x_i\,) = \frac{exp\left(\boldsymbol{\beta'}_j \boldsymbol{x_i}\right)}{\sum_{j=0}^{j} exp\left(\boldsymbol{\beta'}_j \boldsymbol{x_i}\right)} \qquad (2)$$

$$WE: Pr\ (y = j|x_i\ ) = \frac{\mathrm{Exp}\left(\beta_{0,j} + \beta_{1,j}\, x_{i1} + \beta_{2,j} x_{i2} + \beta_{3,j} x_{i3} + \beta_{4,j} x_{i4} + \beta_{5,j} x_{i5} + \beta_{6,j} x_{i6}\right)}{\sum_{j=1}^{4} \exp\left(\beta_{0,j} + \beta_{1,j}\, x_{i1} + \beta_{2,j} x_{i2} + \beta_{3,j} x_{i3} + \beta_{4,j} x_{i4} + \beta_{5,j} x_{i5} + \beta_{6,j} x_{i6}\right)} \quad (3)$$

$$WM: Pr\ (y = j|x_i\ ) = \frac{\mathrm{Exp}\left(\beta_{0,j} + \beta_{1,j}\, x_{i1} + \beta_{2,j} x_{i2} + \beta_{3,j} x_{i3} + \beta_{4,j} x_{i4} + \beta_{5,j} x_{i5} + \beta_{6,j} x_{i6}\right)}{\sum_{j=1}^{4} \exp\left(\beta_{0,j} + \beta_{1,j}\, x_{i1} + \beta_{2,j} x_{i2} + \beta_{3,j} x_{i3} + \beta_{4,j} x_{i4} + \beta_{5,j} x_{i5} + \beta_{6,j} x_{i6}\right)} \quad (4)$$

$$WS: Pr\ (y = j|x_i\ ) = \frac{\mathrm{Exp}\left(\beta_{0,j} + \beta_{1,j}\, x_{i1} + \beta_{2,j} x_{i2} + \beta_{3,j} x_{i3} + \beta_{4,j} x_{i4} + \beta_{5,j} x_{i5} + \beta_{6,j} x_{i6} + \beta_{7,j} x_{i7}\right)}{\sum_{j=1}^{4} \exp\left(\beta_{0,j} + \beta_{1,j}\, x_{i1} + \beta_{2,j} x_{i2} + \beta_{3,j} x_{i3} + \beta_{4,j} x_{i4} + \beta_{5,j} x_{i5} + \beta_{6,j} x_{i6} + \beta_{7,j} x_{i7}\right)} \quad (5)$$

Where×, β =$\times_i$,are vector of characteristics specific to the jth individual, and β_j is a vector of coefficients respectively. The multinomial logit model shows each response probabilities once we know the probabilities for j=0 ...j

3.7.3 Multinomial Logit as a Probability Model

In a typical discrete choice model, the probability that a person chooses a particular alternative, with the probability expressed as a function of observed variables that relate to both the alternatives and the person is central. Most times such alternatives may be few alternatives, say two (binary), but such alternatives may be more than two (polychromous); this is a multinomial choice models. In its general form, the probability that person *n* chooses alternative *i* is expressed as:

$$P_{ni} \equiv Prob(\text{Person n chooses alternative i}) = G\left(x_{ni,} x_{nj}\ \forall_j \neq i, s_{n.}\ \beta\right), \quad 6$$

Where:

x_{ni} is a vector of attributes of alternative j faced by person *in*, [this can also occur or that it helps the respondents in making choices because the choice is described by its attributes]

$x_{nj,}$ is a vector of attributes of the other alternatives (other than *i*) faced by person *n*, because an individual can choose from a choice set or options.

x_n, is a vector of characteristics of person *n*, and β is a set of parameters giving the effects of variables on probabilities, which are estimated statistically.

The choice probabilities are assumed to satisfy two requirements:

(i). Choice probabilities are nonnegative (constant) and sum to 1

(ii). Choice probabilities depend only on the measured characteristics of alternatives and respondent's characteristics.

To ensure that the probabilities are nonnegative, we take the exponential of $x^{\beta j}$; exp ($x^{\beta j}$) and the sum ($\sum$) as it applies. To examine constraints as a result of the non-zero definition (assuming that we set β=0 as normal distribution – which may be violated), β is the measurement parameter of the variables, and adding the constraint (β=0), the probability equation is:

$$\Pr(y_i = j|x_i = \frac{\exp(\mathbf{x_i}\beta_j)}{\sum_{j=0}^{j}\exp(x_i\beta_j)}, \quad \text{we have already defined } \beta=0 \tag{7}$$

Since $\exp(\boldsymbol{x}_i\beta_j) = 1$, the model is commonly written as:

$$\Pr(y_i = j|x_i) = \frac{1}{1+\sum_{j=2}^{j}\exp(x_i\beta_i)} \tag{8}$$

$$\Pr(y_i|x_i) = \frac{\exp(\boldsymbol{x_i\beta_j})}{1+\sum_{j=0}^{j}\exp(x_i\beta_j)} \qquad for\ J\ , 1, \ldots.,6 \tag{9}$$

Equations 8-9 lay a theoretical foundation of the multinomial logit model and its probabilistic considerations. The logit model is simply a log ratio of the probability of choosing a mode to the probability of not choosing a mode.

3.7.4 Estimation of Multinomial Logit Model

Estimation of this model can be done through the Maximum Likelihood Estimation (MLE). The method provides estimation of the model's parameters. It estimates the product of the probabilities of the chosen alternative given the conditions of the binary independence (individual preferences) criterion:

$$\Pr(y_i = j|x_i) = \frac{\exp(x_i\beta_i)}{\sum_{j=0}^{j}\exp(x_i\ \beta_j)} \tag{10}$$

In the women's empowerment and women's satisfaction, some choices may be associated with waiting time for each option. According to Long (1997) the

coefficients for a variable are the same for each outcome, but the values of the variables differ from each outcome.

It remains to specify the multinomial logit model. Formally, the model can be expressed as follows:

$$P_{ij} \equiv \text{Prob}\left(Y_i = \text{j} \middle| X_{ij}\right) = \frac{\exp\left(\text{x'}_{ij}\ '_{ij}\beta\right)}{\sum 2'_j = 1 \exp\left(\text{x'}_{ij}\ \beta\right)} \qquad (11)$$

where the marginal effect of a specific alternative of women empowerment and happiness, on the probability of choosing a specific alternative, Pij, is given by

$$\frac{\partial \text{pij}}{\partial \text{xm}} = [1(\text{j} = \text{m}) - \text{Pm}]P_j\beta \qquad (12)$$

Where the function 1(j = m) equals one if j equals m and zero otherwise. Eq. (12) implies that the sign of the marginal effect depends on the sign of β multinomial on whether j = m. If j = m, then the bracketed expression is positive. Since Pj is also positive, then the sign of the marginal effect is the same as that of β. If j ≠ m, then the bracketed expression is negative. Since Pj is positive, then the sign of the marginal effect is opposite to that of β. Eq (12).

3.8 Interaction Term

An interaction arises when considering relationship among three or more variables, and describing a situation in which the simultaneous influence of two variables on a third is not additive. Most commonly, interactions are considered in the context of regression analyses. The presence of interactions can have important implications for the interpretation of statistical and econometrical models. If two variables of interest interact, the relationship between each of the interacting variables and a third "dependent variable" depends on the value of the other interacting variable. The notion of "interaction" is closely related to that of "moderation" that is common in social and health science research (Ali *et al.*, 2003).

Interaction is useful when it is believed that the effect of one variable depends on the value of another (Ali *et al.*, 2003). The rationale of using interaction terms between education and microfinance involvement is that the theory of human capital (1960) said, education is a key channel to improve the productive quality of labor. Investment in human capital can take place through training and education.

In the present study, the interaction term between education and microfinance are taken as the independent variables. In the human capital theory, if an educated woman borrows through microfinance, she is supposed to be more productive and able to contribute more to the household. Besides, education is a very important factor in reducing poverty and to empower women. Hence, we hypothesized that the effect of

microfinance on women's empowerment depends on the level of education. This study includes the interaction term between microfinance and education as one of the independent variable.

3.9 Data Collection Strategies and Survey Instrument

This part discusses about the data collection strregies and sampling technique.

3.9.1 Data Collection Strategies

The primary data for this study is collected using questionnaires. Data on women empowerment dimension and happiness dimensions are collected from two types of women: first the women who are not involved in microfinance, and second the women who are clients of Khushhali Bank and National Rural Support Programme. Most of the questions which are used in the questionnaire are from Michael Pennock (2009), Pitt, Khandker and Cartwright (2006) and Rehman and Naoroze (2007).

3.9.2 Sampling Technique

Pakistan has four Provinces namely, Punjab, Baluchistan, Sindh, and KPK. Punjab is the largest Province in terms of population. In Punjab, there are nine administrative divisions (Lahore, Rawalpindi, Sargodha, Gujranwala, Faisalabad, DG Khan, Multan, Sahiwal and Bahawalpur) and three deserts namely Cholistan, Thal and The Indus Valley Desert (Socio-economic and Development Profile of Pakistan, 2012). This study targets only Southern Punjab and selects Cholistan Bahawalpur (Desert) of Punjab region randomly from the two desert areas of Southern Punjab.

Table 3.1
Desert areas in Punjab

Location	**Desert**	**Province**
Southern area of Punjab	Cholistan	Punjab
	Thal	
Northern area of Punjab	The Indus Valley Desert	

The Cholistan Bahawalpur Punjab has three main divisions namely Rahim Yar Khan, Bahawalnagar and Bahawalpur). The above mentioned three divisions of Cholistan are categorized as very poor divisions according to BISP-PSS micro-dataset (2010). In determining the sample size, the data were collected from three target districts namely Bahawalpur district, Bahawalnagar district and Rahim Yar Khan district. Figure 3.5 shows the detail of Cholistan Bahawalpur Division.

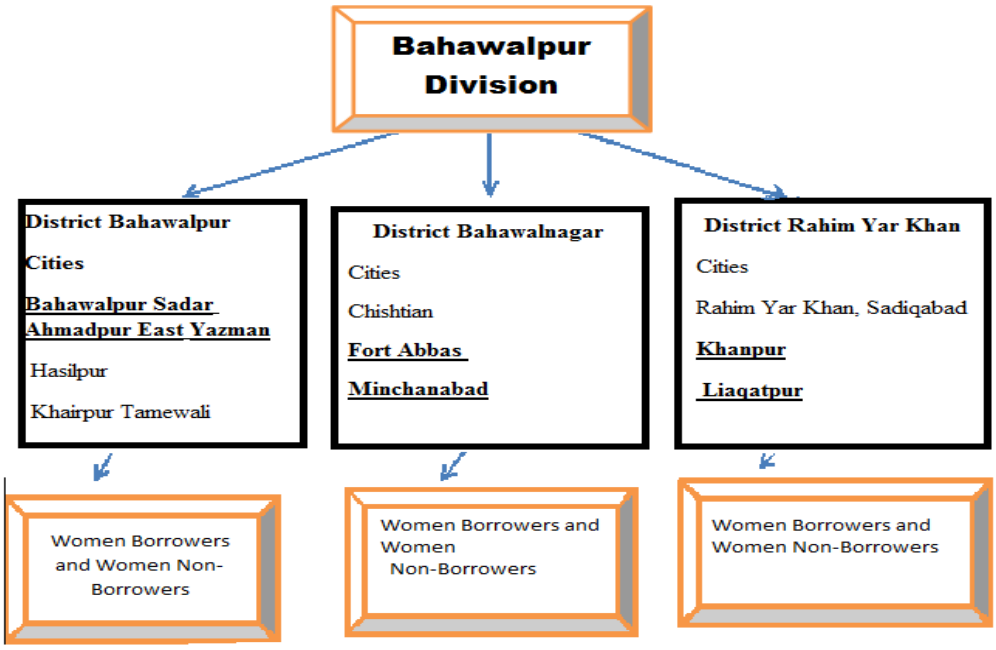

Figure 3.5:
Cities of Cholistan Bahawalpur

There are four microfinance institutions in Cholistan Bahawalpur namely National Rural support program (NRSP) Khushali Bank (KB) First microfinance bank (FMFB) and Tameer Bank (TMB). The distribution of customers in Bahawalpur in different microfinance institutions is different. The percentage of the total numbers (both male and female) of customers in NRSP is 65 percent, TMB is 7 percent, KB is 16 percent and FMFB is 12 percent. The women who borrowed the loan in 2012 and had completed one loan cycle (12 months) were selected to participate in this study. However, there were no women borrowers who have completed one loan cycle in TMB and FMFM. Hence, only two microfinance institutions NRSP and KB were selected in this study.

This study utilized the random sampling technique and used sample size was based on the criteria suggested by Roscoe's rule of thumb (Sekaran, 2003) i.e. a sample that is larger than 30 and less than 500 is appropriate. This study selected 372 women non-borrowers and 372 women borrowers randomly from the two microfinance institutions (NRSP and KB). The sampling frame of women who were involved with MFIs was collected from the local offices of the concerned MFIs. Later a list of 100 to 150 women was selected randomly from each selected districts of Cholistan Bahawalpur. A total number of 372 borrower women were taken as representative sample of women who were involved in MFIs. The study collected 136 borrowers' respondents from Bahawalpur, 124 from Bahawalnagar and 112 from RahimYar Khan. A total number of 372 non-borrowers women were taken as representative sample of women that were not involved in MFIs. The study collected 136 non-borrowers women from Bahawalpur, 124 from Bahawalnagar and 112 from RahimYar Khan. The Table 3.4 demonstrates the description of the sample size. Tasquran (2011) also used the same random sampling technique for conducting the research on empowerment of borrowers women and non borrowers women.

Table 3.2
Sample Size of Borrowers women and Non-Borrowers women

Southern Punjab	Female Population ('000' Persons)	Poverty of female of the Head of Household %	Selected Sample Borrowers + non-borrowers
Bahawalpur Division	**3652**		744
Bahawalpur	1154	29.36	136+136
Bahawal Nagar	994	15.86	124+124
Rahim Yar Khan	1504	49.99	112+112

Source: *Bureau of Statistics Government of the Punjab, Lahore, 2011*

3.10 Focus, Sources of data and Scope of the study

Figure 3.6 and 3.7 below shows the source of data that is used in the study. The figure also shows the approach in terms of focus and scope of the study

Focus **Source of Data** **Scope**

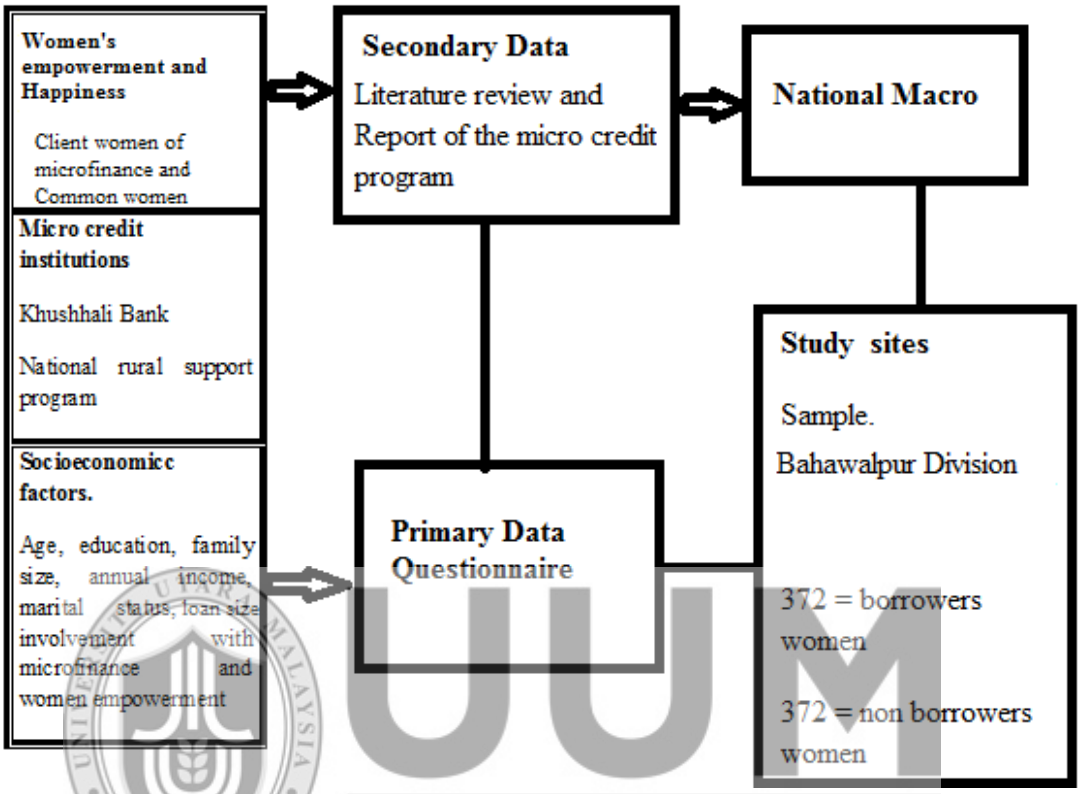

Figure 3.6:
Focus, Data and Scope in the Estimation of Empowerment Model

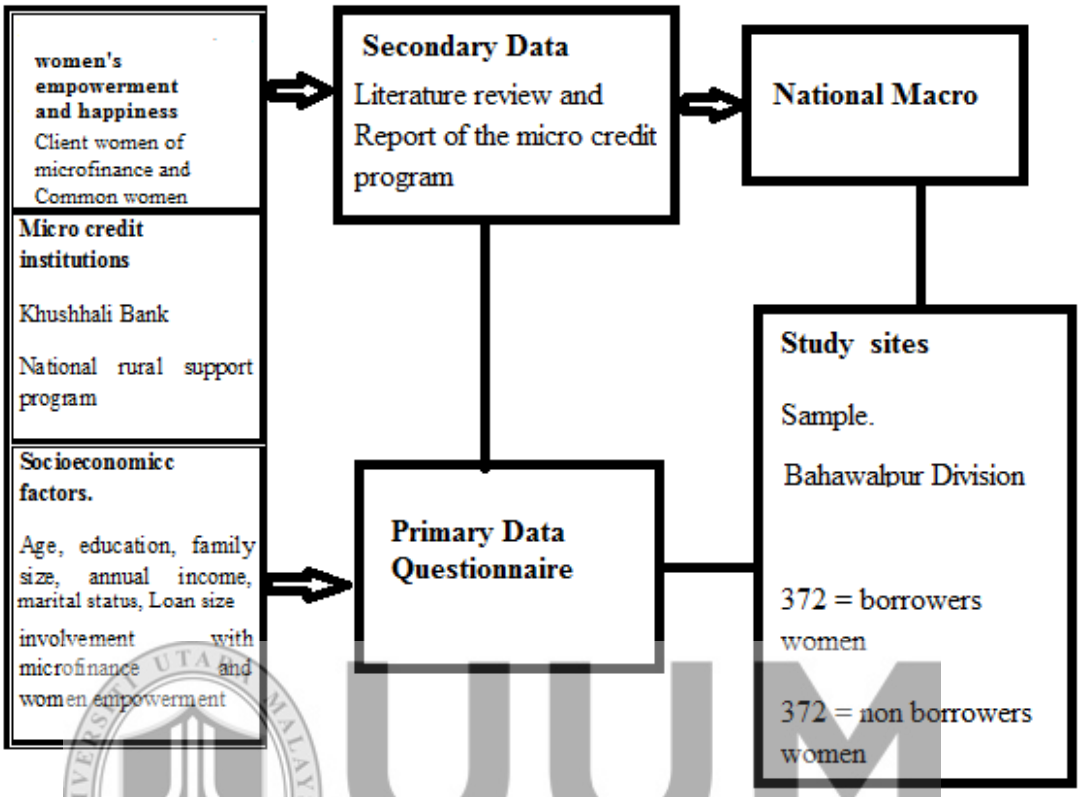

Figure 3.7:
Focus, Data and Scope in the Estimation of Happiness Model

3.11 Chapter Summary

This chapter describes the methodology of the present study; thus, builds the empirical model states data collection procedure and technique of the analysis of the data to answer the research objectives. The next chapters present and explain the resulting of the relationship between microfinance and women's empowerment and happiness.

CHAPTER FOUR

RESULTS AND DISCUSSION

This chapter presents and discusses the results of the survey and the econometric estimation of the empowerment and happiness model. First, this study provides descriptive analyses of the survey sample. Then, the results of estimation of the multinomial Logit and Probit model of women's empowerment and happiness are presented and discussed.

4.1 Characteristics of Respondents

This study describes the descriptive and econometric analaysis. For better description and understanding, in descriptive analaysis, the independent variables are categorized while for econometric analaysis this study uses the STATA and independent variable are not categorized.

This section describes the background characteristics of the respondents considered in this study. A total of 744 women were involved in the in-depth interview. Out of the total, 372 respondents were women borrowers while 372 women were non-borrowers. The characteristics of the respondents are given below.

4.1.1 Age (Age)

Age is the Age of a respondent and is expressed in years. We use nine age groups for age of respondents (15-19 year, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-

above) in our analysis. Table 4.1 reports that the majority of both non-borrowers and borrowers fall in the group 35-39 years old (17.2 percent and 21.5 percent, respectively). On the other hand, the smallest percentage of both borrowers and non-borrowers are in the 15-19 age category. In general, borrowers are younger than non–borrowers.

Table 4.1
Age (Age) of Respondents

Age	**Borrowers**		**Non-Borrowers**	
Age groups	Frequency	Percentage	Frequency	Percentage
15 – 19	5	1.3	4	1.1
20 -24	32	8.6	19	5.1
25- 29	49	13.2	49	13.2
30 – 34	58	15.6	41	11.0
35 – 39	64	17.2	80	21.5
40 -44	58	15.6	70	18.8
45 – 49	47	12.6	22	5.9
50 – 54	28	7.5	25	6.7
55 – above	31	8.3	62	16.7
Total	372	100%	372	100%

4.1.2 Education (Edu)

Edu is the education level and is expressed as the maximum numbers of years of schooling completed. We use five groups of education level. Table 4.2 shows that the majority (87 percent) of the borrowers are illiterate that is having no formal education. In the case of women non-borrowers, 97 percent are illiterate. Table 4.2 also shows that for all the respondents (both borrowers and non-borrowers) the maximum level of

education is up to the secondary level (less than 10 years education level). Among the borrowers, 87 percent are literate while among non-borrowers, 97 percent are illiterate. So, we can conclude that literacy is higher among borrowers than non-borrowers.

Table 4.2
Education Level of Respondents (Edu) (*Borrowers and Non-borrowers*)

Edu Edu groups	**Borrowers**		**Non- Borrowers**	
	Frequency	Percentage	Frequency	Percentage
0	325	87.4	362	97.3
1–5	16	4.3	4	1.1
6–10	31	8.3	6	1.6
11-14	0	0	0	0
15–above	0	0	0	0
Total	372	100%	372	100%

4.1.3 Family Size (FSize)

FSize is family size. Family size is calculated by the number of individuals of household who live in the same house. They are divided into four groups.

Table 4.3
Family Size of Respondents (FSize)

FSize	**Borrowers**		**Non-Borrowers**	
FSize groups	Frequency	Percentage	Frequency	Percentage
0-5	138	37.1	183	49.2
6-10	203	54.6	171	46.0
11–15	31	8.3	15	4
16–Above	0	0	3	8
Total	372	100%	372	100%

The majority of the borrowers (55 percent) have family members between 6 -10 while 38 percent of them have 0-5 family members. On the other hand, the majority of the non-borrowers respondents (49 percent) have 0-5 family members and 46 percent have 6-10 family members. Hence, the family size of the non-borrowers is higher than borrowers.

4.1.4 Annual Income (Inc)

Inc refers to annual income. Table 4.4 reports the annual income of the respondents. Females having greater personal income can be more independent. In the case of borrowers, the majority of them (72 percent) have an income more than PKR: 301,000.

Table 4.4
Annual Income of the Respondents (Inc)

Inc (Per year, PKR)	**Borrowers**		**Non-Borrowers**	
	Frequency	Percentage	Frequency	Percentage
0	0	0	176	47.4
1-50,000	7	2.69	173	46.4
51,000–100000	10	2.69	7	1.9
101,000-150,000	26	6.99	6	1.6
151,000–2,00000	15	3.76	10	2.7
201,000-250,000	35	9.41	0	0
251,000-3,00000	11	2.96	0	0
301,000- above	269	72.38	0	0
Total	372	100%	372	100%

1 USD= PKR 99

On the other hand, the majority of the non-borrowers (47 percent) have zero income. 46 percent have income between 1- 50,000. Hence, respondents who are borrowers earn more than non-borrowers.

4.1.5 Marital Status (MS)

MS refers to marital status of respondents. In the case of borrowers, most of the respondents (96.7 percent) are married and 3.2 percent are unmarried. Likewise, in the case of non-borrowers, most of them (98.7 percent) are married and 1.3 percent are unmarried.

Table 4.5
Marital Status of Respondents (MS)

MS MS groups	**Borrowers**		**Non-Borrowers**	
	Frequency	Percentage	Frequency	Percentage
Married	420	96.7	367	98.7
Unmarried	12	3.2	5	1.3
Total	372	100%	372	100%

4.1.6 Duration of Involvement with Microfinance

Table 4.6 reports the duration of involvement with microfinance in months and years. The majority of them have involved in microfinance between 1-3 years while 36 percent have engaged in microfinance for more than 4 years.

Table 4.6
Duration of Involvement with Microfinance of Women Borrowers

Number of Months/ Years of Involvement with Microfinance institutions	**Frequency**	**Percentage**
17.00	100	29.6
24.00	99	26.6
36.00	59	15.9
1-3 Years	258	72.1
48.00	37	9.9
60.00	32	8.6
72.00	9	2.4
4-6 Years	78	20.9
84.00	13	3.5
96.00	16	4.6
120.00	5	1.3
7-12 Years	34	9.4

4.1.7 Loan Size (LSize)

LSize refers to loan size of respondents. Table 4.7 sheds light on the loan size that the women borrowers have taken. Loan size is measured as the amount of loan taken by the woman respondent (expressed in rupee, 1US$= PKR 99) from microfinance institutions.

To analyze the loan size of women borrowers, they are categorized into six groups. The first group is categorized between 0-5,000. The second group is categorized between 5,001-10,000. Third group is categorized between10,001-15,000. Fourth group is categorized between 15,001-20,000. Fifth group is categorized between 20,001 – 25,000 and sixth group is categorized greater than 25,001. The majority of the borrowers (43 percent) has loan size between PKR 10,001-15,000, 21.23 percent of the borrowers has loan size between 5,001-10,000 while 5.91 percent of them have loan size between 0-5,000. Only 6 percent have loan size more than 20,000 PKR.

Table 4.7
Loan Size (LSize) of Women's Borrower

LSize (PKR)	Frequency	Percent
0-5,000	22	5.91
5,001-10,000	79	21.23
10,001-15,000	161	43.27
15,001 -20,000	86	23.15
20,001 – 25,000	13	3.49
>25,001	11	2.95
Total	372	100.0

4.1.8 Empowerment and Happiness

The difference between empowerment of micro-credit borrowers and non-borrowers can be understood by comparing the dimension of empowerment. Table 4.8 and Table 4.9 shows the percentage of the two dimensions (WE and WM) of empowerment while Table 4.11 shows the dimension of happiness of micro-credit borrowers and non-borrowers. The percentages of MFI borrowers who are fully able to make economic decision making and to have freedom of movement are higher than the non-borrowers. In the case of micro-credit borrowers, the percentage of respondents who have full ability to make economic decision is 90.3 percent. The percentage of respondents having no ability in economic decision making is only 1.1percent. In the case of non-borrowers, the percentages of respondents who have full ability in economic decision making is only 51.3 percent. Those women who do not have the ability to make economic decision is 4.6 percent.

In the case of having freedom of movement and visit outside, percentage of women borrowers who have full ability and sometimes ability are 61.3 percent and 31.5percent respectively. 7.3 percent of those women borrowers never go outside. On the other hand, a percentage of non-borrower women having the freedom to go out is 29.3 percent. The percentages of those women who sometimes go outside are 64.2percent while those who never go outside is only 6.5 percent.

Table 4.8
Percentage of Womes'n Economic Decision Making by Borrowers and Non-Borrowers

	Borrowers		**Non- Borrowers**	
	Frequency	Percentage	Frequency	Percentage
Women's decision making empowerment				
Full ability	336	90.3	191	51.3
Sometimes ability	32	8.3	164	44.1
No ability	4	1.1	17	4.6

Table 4.9
Percentage of Women's Freedom of Movement by Borrowers and Non-Borrowers

	Borrowers		**Non-Borrowers**	
	Frequency	Percentage	Frequency	Percentage
Full freedom	228	61.3	109	29.3
Sometimes freedom	117	31.5	239	64.2
No freedom	27	7.3	24	6.5

In the case of satisfaction the percentage of women borrowers who are fully and sometimes satisfied are 95 percent and 2 percent, respectively. Only 3 percent of those women borrowers are not satisfied. For the non-borrowers, the percentage of fully and sometimes satisfied is 87.1 percent and 9.1 percent, respectively. Those who are not satisfied only comprise 1.3 percent of the non-borrowers as indicated in Table 4.9.

Table 4.10
Percentage of Satisfaction of Respondent by Borrowers and Non-Borrowers

WS	**Borrowers**		**Non- Borrowers**	
	Frequency	Percentage	Frequency	Percentage
Fully satisfied	353	95%	324	87.1
Sometimes satisfied	8	2%	34	9.1
Not satisfied	11	3%	5	1.3

4.1.9 Descriptive Statistics

According to the Table 4.11, in the case of women borrowers and non borrowers, the average age is 38.69. The minimum age (Age) is reported 17 and maximum age is 75 while the standard deviation is 12.027. The education (Edu) of respondents is important for the analysis. The minimum years of education are 0 and maximum is 16. The average year of education is 1.09 and the standard deviation is 2.910.

Tables 4.11
Descriptive Statistics of Variables

	Minimum	Maximum	Mean	Std. Deviation
Age			38.69	12.027
educationF	0	16	1.09	2.910
Family Size	0	21	6.24	2.729
Annual Income	0	840000	25980.25	52286.923
loan size	0	35000	7509.41	8359.192

In case of family size (FSize). The minimum FSize is 0 and maximum FSize is 21, respectively. The mean is 6.224 and the standard deviation is 2.729. The minimum

annual income (Inc) of women is 0 and maximum is 840000. The mean is 25980.25 and the standard deviation is 52286.923. The minimum LSize is 0 and maximum loan size (LSize) is 35,000. The mean and standard deviation are 7509.41 and 8359.192, respectively.

4.2 Checking for Multicollinearity

In our study, we used a relatively large number of explanatory variables. There are some concerns over whether our results are plagued by multicollinearity, which occurs when two different explanatory variables (or more) actually measure the same thing, thereby precluding us from assessing the individual effect of an explanatory variable on women empowerment and happiness. So in the case of two or more variables that measure the same thing, if there is a perfect linear relationship among the predictors, the estimates for a regression model cannot be uniquely computed.

To make sure that the variables are free from multicollinearity we test for multicollinearity by using two methods, VIF and Pearson correlation. As a rule of thumb, a variable whose VIF values are greater than 10 may merit further investigation. Tolerance, defined as 1/VIF, is used by many researchers to check on the degree of colinearity. A tolerance value lower than 0.1 is comparable to a VIF of 10. It means that the variable could be considered as a linear combination of other independent variables. In Table 4.12, the VIF value of Age, Edu, FSize, Inc , MS,

MFI, LSize and Wemp are 1.14, 1.13, 1.04, 1.07, 1.12, 5.44, 5.52 and 1.31, respectively. The results indicate that there are no problems of multicollinearity

Table 4.12
Checking for Multicollinearity using VIF

Variable	VIF	1/VIF
Age	1.14	0.877
Edu	1.13	0.883
FSize	1.04	0.960
Inc	1.07	0.938
MS	1.12	0.891
MFI	5.44	0.183
LSize	5.52	0.181
Wemp	1.31	0.764
Mean VIF	2.22	

Pallant (2007) suggested that to avoid the problem of multicollinearity, the correlations among the independent variables should not exceed 0.70. Table 4.13 provides a summary of the results from the correlation analysis. The correlations (r) among the independent variables did not exceed 0.70. Hence, the problem of multicollinearity does not exist. Accordingly, there seems to be no need to drop any of the independent variable from our model specification.

Table 4.13
Checking for Multicollinearity by Correlation

Correlations	**Age**	**Edu**	**FSize**	**Inc**	**Ms**	**MFI**	**LSize**	**Wemp**
Age	1.0000							
Edu	-0.140	1.000						
FSize	0.087	-0.026	1.0000					
Inc	-0.010	0.069	-0.011	1.0000				
MS	0.290	-0.001	-0.057	-0.016	1.000			
MFI	-0.106	0.230	0.120	0.141	-0.082	1.000		
LSize	-0.085	0.280	0.101	0.188	-0.043	0.289	1.000	
Wemp	0.041	0.222	0.113	0.198	0.080	0.418	0.416	1.000

4.3 Effect of Microfinance on Women's Economic Decision Making Empowerment

In this section, we discuss the results of both involvement in microfinance and loan size effect on women decision making empowerment.

4.3.1 Effect of Involvement in Microfinance on Women's Economic Decision Making Empowerment

Before we estimate the model, we check whether the model satisfied the IIA assumption.

4.3.2 Model Specification

In conclusion, a stringent assumption of multinomial is that, outcome categories for the model have the property of independence of irrelevant alternatives (IIA). Stated simply, this assumption requires that the inclusion or exclusion of categories does not affect the relative risks associated with the regressors in the remaining categories. So, before the multinomial logit model is estimated, we have to make sure that these IIA assumptions are satisfied. The Hausman test is carried out to test whether the IIA assumption is satisfied with different base categories.

First, in the category of "full ability" the chi square statistics indicate Ho can not reject. Second, in the model, the chi square of the "no ability" category has negative sign. Long and Freese (2006) and McFadden (1984, p. 1226) note this possibility and conclude that a negative result is evidence that IIA has not been violated. Cheng, and Long (2007) stated that the size properties of the most common IIA tests depend on the data structure for the independent variables. Analyses suggest that 20 to 60 percent of the resulting chi-square values from the Hausman-McFadden test were negative, but the incidence decreases as sample size increases. Hence, there is no clear relationship between the type of data structure and the percentage of tests with negative chi-square values. So, the negative finding is not the avoidance of IIA aassumption violation. Furthermore, McFadden (1974) argued that if all the categories are different from one another, like what we have in our analysis, the IIA assumption are not violated. On the basis of the studies of Cheng, and Long (2007), Long, and

Freese (2006) McFadden (1984, p. 1226) and McFadden (1974) the negative value of chi-square in the present study does not indicate violation of IIA assumption. Hausman test result in Table 4.14 shows that the IIA has not been violated in our model. The base outcome is the outcome category "no ability". This is due to the fact that the other two outcome categories (sometimes ability and full ability) fall under having ability. Thus, "no ability" is entirely distinct and considered appropriate as the base outcome.

Table 4.14
Independence of Irrelevant Alternatives (IIA) Tests for MNL

	Full sample			
Omitted	**chi2**	**Df**	**P>chi2**	**Evidence**
No ability	-0.508	8	1.000	Can't reject Ho
Sometimes ability	2.723	8	0.951	Can't reject Ho
Full ability	38.883	8	0.000	Can reject Ho

4.3.3 Result of the Effect of Involvement in Microfinance on Woman's Economic Decision Making Empowerment (WE)

The hypothesis is that women who are involved in these micro-credit programs are more empowered in the economic decision making. The multinomial logit model was used to examine the effect of microfinance on women's economic decision making empowerment. Later, this study also discusses the estimation results of the multinomial probit model to determine whether our results of MNL are robust to different estimation of MNP. In this first model, economic decision empowerment is

the dependent variable while age (Age), respondent's education (Edu), family size (FSize), respondent's annual income (Inc), marital status (MS), involvement in microfinance (MFI) and interaction term between education and microfinance are included as the independent variables. Education is a very important factor to reduce poverty and to empower women. We also hypothesized that the effect of microfinance on women's empowerment depends on the level of education. Hence we also include the interaction term between microfinance and education as one of the independent variable.

Table 4.15 shows that overall the model is statistically significant as the Prob > chi^2 = 0.0000. The result shows that, in both cases, sometime ability relative to no ability and full ability relative to no ability, the variable microfinance involvement (MFI) is positive and significant at 1 percent indicating a positive effect on women's decision making.

In addition, this can be explained as follows. When a woman is involved in microfinance, she is supposed to be experienced and wiser than the women who are not involved in microfinance. The non-borrowers usually remain indoors while women's borrower goes outdoors for her business purpose, enhancing her social network more than the non-borrowers. The interaction with other people taught her about people's behavior in society. Hence, women borrowers would be able to make a decision on the basis of the situation more than the non-borrowers. Women borrowers

would not only become empowered in decision making because of their social network and survival, but also due to their financial contribution to her household.

The result of this study supports the argument that to empower women, they have to be independent and have their own source of income. One way for women to have own income is by involving themselves in small scale businesses. However, women lack the capital to venture into business. Since the problem of women's empowerment cannot be resolved without having capital, microfinance is a kind of financial service that can be a source of financing since microfinance target women. Hence, microfinance can empower women by getting themselved involves in small scale business and contributes to her household. According to the general theory of gender stratification, with greater economic power, women gain more say in economic decisions.

In Pakistan, women cannot make decision independently; most of the woman's livelihood depends on men. Dependency makes them silent on getting their rights. They follow the decisions made by men, they want to do business independently but they lack the capital to venture into business (Shabbir and Gregorio, 1996). Microcredit is a kind of financial service that can be a source of financing since microfinance targets women. Based on the results, government and non-government agencies can increase women's empowerment through promoting the microfinance institutions.

Table 4.15
Results of Multinomial Logit Estimation (Full Sample)

Model 1	**Sometimes ability relative to No ability**		**Full ability relative to No ability**	
	Coef.	Std. Err	Coef.	Std. Err.
Cons	-.706	.519	-3.496	.594
Age	.0069	.008	.020	.009 **
Edu	.074	.082	.273	.079***
FSize	.063	.039	.103	.042**
Inc	9.480	3.71**	.000	3.89***
MS	-.2768	.334	.471	.342
MFI	.755	.268***	3.360	.272***
Edu* MFI	.001	.004	-.001	.003
LR chi2 (14) = 369.66				
Probe > chi2 = 0.0000				
Log likelihood = -607.0921				
Pseudo R2 = 0.2334				

Note: ***, ** and * denote that the corresponding coefficient is significant at the 1%, 5% and 10% level, respectively. No ability is the base outcome.

The results of the study are similar to Cheston and Kuhn (2002) Gobbi (2005) Hunt and Kasynathan (2002) Mayoux (2006) and Noreen (2010). The coefficient of education (Edu) is positive and significant at 1 percent in the case of full ability relative to no ability. The results of this study indicate that education has a positive effect on women's economic decision making since more educated women's are much more able to make decision than that of uneducated women. The results of the study are similar to Handy and Kassam (2004), Mason (1986), Mustafa *et al.* (2008) and Noreen (2010).

The coefficient of the interaction term between education and microfinance is not significant, indicating that the effect of microfinance and education on decision making empowerment does not depend on level of education. This can be explained as follows:

In the context of direct impact of formal education on empowerment, this study concluded that education has positive and significant impact on women's ability of making decision. However, the effect of microfinance on women's empowerment does not depend on education. It is argued that it is not necessary if the formal education has direct significant impact between education and empowerment, it must have significant impact in indirect relationship between education, microfinance involvement and empowerment.

Individual can be educated through any type of knowledge like formal education, informal education, through media and tacit knowledge. Although, most of the respondents are illiterate but most of them are expected to have tacit and informal education. Previous studies confirm the relationships between tacit education and empowerment. May (2008) argued that importance of understanding how women perceived their tacit knowledge and how they make decisions whether or not to share that knowledge is critical for the success of ongoing business. The empirical findings of his study states that older women who had tacit knowledge had more physical mobility than the younger women. Tacit knowledge provides awareness and make

them understand about social behavior, their social learning make them able to make decision and they move in their workplace with confidence. Amini, Imanzadeh, Rahmanian, Afravi, Bay, and Sedaghat (2012) relate that there is a significant positive correlation between tacit knowledge and the ability of decision making (r = 0.43). Borrower women need awareness to be successful in their small business and awareness can be gotten by tacit knowledge or informal education. So, to know how to do the things is not compulsory to get only by having formal education. Majority of women in this study do not have formal education but they are expected to have tacit knowledge and informal education. Pakistani religious customs and social traditions of Muslim society provide religious education to Muslim girls from their childhood. Knowledge of religious sciences allow them to exalt their status and they can exercise similar authority, which their male counterparts are enjoying (Bradle and Saigol, 2012; Farooq, 2011).

In the context of indirect relationship, the coefficient of the interaction term between education and microfinance is not significant, indicating that the effect of microfinance and education on empowerment (economic decision making) does not depend on level of education. This result indicates that the success of the micro business does not depend on the level of formal education. When women borrow loan from microfinance institutions, women directly start physical movement and make decision to start their business activities whether the women are educated or not. It is

not compulsory that the effect of microfinance and education on empowerment (economic decision making) depends on level of education.

However, the results suggest that, in Pakistan, education can improve women's empowerment, as education provides awareness about legal rights and courage to avail their rights (Noreen, 2011). Hence, this issue is important since in Pakistani culture, most of the decisions are made by head of the household (Shareef, 2014) Furthermore, males in Pakistan are more encouraged to persue education than females (Nasir, 2002). To enhance the women's empowerment, government and nongovernment agencies can launch the education programs for women.

The coefficient of age (Age) is not significant in the case of sometimes ability relative to no ability. However, in full ability compared to no ability, the coefficient of age is significant at 5 percent and positive, indicating a positive effect of age on women's empowerment in decision making. As the women's age increase, she experiences many things and becoming more mature. This experience and maturity lead her to be strong in her decision making process. The results of the study are similar to Kishor (2000) and Stromquist (1995).

Coefficient of the family size (FSize) variable is positive and significant in full ability compared to no ability, indicating that family size has a positive effect on women's economic decision making. A large family size enables household members to take care of one another and have more respect towards women. The results of the study

are similar to Banu *et al.* (2000), Hasherni *et al.* (1996) and Parveen (2007). The coefficient of variable income (Inc) is positive and significant in both sometimes ability and full ability compared to no ability. As income increases, women's empowerment in decision making increases because when a woman has money she can contribute to her family. Her contribution to the family makes her more relevant and therefore her decision is respected. In addition, women's income has positive relationships with her decision making ability because working women do not only have strong influence in the family but can be very dominant in the family. Mayoux (2005) and Noreen (2009) found the positive effect of income on empowerment.

The coefficient of variable marital status is not significant in both sometimes ability and full ability compared to no ability. This can be explained as follows, in Pakistani culture a female can make household decision like decision about buying grocery but she can not make decision of buying and selling property without permission, concent and direction of husband, older sons or head of the household. Asim (2009) found that the marital status of Pakistani women is not significant in the case of economic decision making.

4.3.4 Impact of Change in the Explanatory Variable in the Woman's Economic Decision Making Empowerment (WE)

The estimated coefficients in the multinomial logit model are of limited use because they cannot be used to infer the direction of the marginal effect of each explanatory variable. The marginal effect of a given variable on the probability of ability to make

economic decision making (no ability, sometimes ability and full ability) is a function of all of the estimated coefficients. Hence, we proceed by calculating the marginal effect of each explanatory variable on the probability of ability to make economic decision. As documented in Table 4.16, we find the following results.

First, the marginal effect of involvement in microfinance (MFI) on the probability of fully able to make economic decision making is significant. In particular, if a woman involves in microfinance the probability of not able and sometimes able to make economic decision making is expected to fall by 3.4 percent and 25.5 percent, respectively, while the probability of being fully able to make economic decision is expected to rise by 60.1 percent.

Second, the marginal effect of respondents' education (Edu) on the probability of being able to make an economic decision is significant for full ability only. In particular, if the education of a respondent increases by one year, the probability being able to make full decision is expected to rise by 4.1 percent. The result indicates that the probability being more empowered in terms of economic decision making increase with level of education. On the other hand, if the education of a respondent increases by one year, the probability of being sometime able to make an economic decision is expected to fall by 1.25 percent and the probability not able to make an economic decision is expected to fall by 2.8 percent.

Third, the marginal effect of respondent's age (Age) on the probability of being able to make economic decision making is significant for full ability only. In particular, if the age of a respondent increases by one year, the probability being able to fully make economic decision making is expected to rise by 0.4 percent. The result shows that women's empowerment in term of economic decision making increases with age. While the probability of being sometime able to make economic decision and the probability, not able to make an economic decision is expected to fall by 0.2 percent in both, respectively.

Fourth, the marginal effect of family size (FSize) on the probability of being fully able to make decision is significant for full ability only. In particular, if the number of family size increases by one from its mean value, the probability of being fully able to make an economic decision is expected to rise by 1.4 percent. On the other hand, the probability of being sometime able to make an economic decision is expected to fall by 0.1 percent and the probability not able to make an economic decision is expected to fall by 1.4 percent. These results suggest that no ability and sometime ability appear to be related to relatively small family size while the full ability is related to relatively large family size.

Fifth, the marginal effect of the annual income (Inc) of respondents on the probability of being fully able to make an economic decision is significant. In particular, if the amount of annual income of respondent increases by PKR 1,000 from its mean value

of income, the probability of being fully able to make an economic decision is expected to rise by 20.6 percent. The coefficient of income in the probability of being sometimes able is insignificant. The probability of not being able to make an economic decision is expected to fall by 21.2 percent if income increases by PKR 1000. These results suggest that no ability to make an economic decision making appears to be related to relatively low income while full ability to make an economic decision is related to relatively high income.

Table 4.16
Marginal Effect of the MNLM (*Full Sample*)

Variable	No ability	Sometimes ability	Full ability
Age	-.002*	-.002	.004**
	(0.083)	(0.222)	(0.035)
Edu	-.028***	-.0125	.041***
	(0.003)	(0.168)	(0.000)
FSize	-.014**	-.000	.014*
	(0.018)	(0.992)	(0.098)
Inc	-.212***	.579	.206***
	(0.000)	(0.915)	(0.001)
MS	-.288**	.045	.242**
	(0.041)	(0.706)	(0.019)
MFI	-.346***	-.255***	.601***
	(0.000)	(0.000)	(0.000)

Note: ***, ** and * denote that corresponding coefficient is significant at the 1%, 5% and 10%. The figures in parenthesis are p-values. No ability is the base outcome.

Sixth, the marginal effect of marital status of respondent on the probability of fully able to make an economic decision is significant. In particular, if the respondent gets married, the probability of being fully able to make economic decision is expected to

rise by 24.2 percent. The marginal effect of marital status (MS) on the probability of being sometimes able to make economic decision is not significant. The probability of not able to make economic decision is expected to fall by 28.8 percent if the respondent gets married. These results suggest that no ability appears to be related to unmarried women while the full ability to make an economic decision is related to married women.

4.3.5 Effect of Microfinance on Woman's Economic Decision Making Empowerment (WE) (Probit Model)

We have shown in the results of the estimation of the multinomial logit model that women who are involved in microfinance are more empowered in economic decision making. To verify that the results are robust we also estimated by using the multinomial probit model. Table 4.17 shows that overall the model is statistically significant as the Prob > chi^2 = 0.0000.

The result is shown in Table 4.17. In both sometime ability and full ability relative to no ability, the coefficient of the microfinance involvement (MFI) variable is positive and significant at 1 percent indicating that microfinance positively affects women's borrower economic decision making comparisons to non-borrowers. In full ability relative to no ability, the coefficient of education (Edu) is also positive and significant at 1 percent percent level, respectively.

In the case of age (Age), we found that in both sometimes ability relative to no ability the coefficient of age is not significant. However, in the case of full ability relative to no ability, the coefficient of age is significant at 5 percent and is positively related to economic decision making. The coefficient of the family size (FSize) variable is significant and positive in both sometimes ability and full ability compared to no ability.

Table 4.17
Results of Multinomial Probit Estimation

Model 1	**Sometime ability relative to No ability**		**Full ability relative to No ability**	
	Coef.	Std. Err.	Coef.	Std. Err.
Cons	-.570	.401	-2.634	.429
Age	.004	.006	.015	.007 **
Edu	.048	.059	.200	.057 ***
FSize	.051	.029*	.078	.031**
Inc	7.360	2.790***	.000	2.890***
MS	-.186	.256	.350	.250
MFI	.528	.187***	2.556	.188***
Edu * MFI	.000	.002	-.001	.002
Wald chi2 (14) = 281.73				
Log likelihood = -606.94971				
Prob > chi2 = 0.0000				

Note: ***, ** and * denote that the corresponding coefficient is significant at the 1%, 5% and 10% level, respectively. No ability is the base outcome.

The income (Inc) variable is positive and significant in both sometimes ability and full ability compared to no ability. The marital status (MS) is insignificant in making fully ability decision making compared to no ability in decision making. The results indicate that all the results are consistent with the result of the multinomial logit model.

4.3.6 Model Specification

Before the multinomial logit model is estimated, we have to make sure that this IIA assumption is satisfied. The Hausman test is carried out to test whether IIA assumption is satisfied with different base categories. The Hausman test results in Table 4.18 shows, that the IIA has not been violated in our model.

The chi square of the "no ability" category has negative sign. On the base of the studies of Cheng and Long (2007), Long and Freese (2006), McFadden (1984, p. 1226) and McFadden (1974) the negative value of chi-square does not indicate violation of IIA assumption.

Table 4.18
Independence of Irrelevant Alternatives (IIA) Tests for MNL

	Full sample			
Omitted	**chi2**	**Df**	**P>chi2**	**Evidence**
No ability	-0.581	5	1.000	Can't rej ect Ho
Sometimes ability	1.192	5	0.946	Can't reject Ho
Full ability	5.666	5	0.340	Can't reject Ho
No ability	-0.581	5	1.000	Can't rej ect Ho

4.3.7 Effect of Loan Size on the Woman's Economic Decision Making Empowerment (WE)

The multinomial logit model was used to examine the effect of loan size and other previous variables on women's economic decision making empowerment. The difference between model 1 and 2 is only that the variable involvement in microfinance (MFI) is replaced with the variable loan size, while all other variables are the same. Later, we also discuss the estimation results of the multinomial probit model to determine whether our results are robust to different estimation. Table 4.19 shows that overall the model is statistically significant as the Prob > chi^2 = 0.0000.

Table 4.19 presents the results of the multinomial logit model estimation. The result shows that, in both sometime ability and full ability relative to no ability, the coefficient of the loan size (LSize) variable is positive and significant at 1 percent indicating a positive effect on women's decision making. In both cases, sometimes ability and full ability compared to no ability, the loan size positively affects women's economic decision making. This can be explained as follows. With larger loan size women can operate a better business and interact with more people. Her exposure and understanding of more peoples' behavior leads her to a greater ability of making decision compare to those with small loan size. Khandker *et al.* (1995) said that greater amount of credit provisions in the society through women can generate much needed social and economic benefits to the credit receiving women. Tuseef (2011) concluded that loan size is a significant predictor of women empowerment. Larger

loans help woman to involve in more profitable activities, generating higher incomes. With higher income, they improve their social standing and will have more say in economic decision making.

Table 4.19
Results of Multinomial Logit Estimation (Full Sample)

Model 2	**Sometimes ability relative to No ability**		**Full ability relative to No ability**	
	Coef.	Std. Err.	Coef.	Std. Err.
Cons	-.768	.519	-3.062	.574
Age	.007	.008	.0180	.009**
Edu	.105	.0821	.264	.080***
FSize	.0651	.0393*	.111	.0423***
Inc	9.540	3.680***	.000	3.860***
MS	-.277	.332	.325	.341
LSize	.000	.000***	.000	.000***
Edu*LSize	-1.800	9.310	-6.78	8.766
LR chi2 (14) =	366.1			
Prob > chi2 =	0.0000			
Log likelihood =	-608.85034			
Pseudo R2 =	0.2312			

Note: ***, ** and * denote that the corresponding coefficient is significant at the 1%, 5% and 10% level, respectively. No ability is the base outcome.

The results of other variables indicate that all the results are consistent with the result of model 1 where the independent variable is involvement in microfinance. The coefficient of the variable education (Edu) is also positive and significant at 1 percent indicating that education has a positive effect on women empowerment in decision making. The coefficient of the interaction term between education and loan size is not significant, indicating that the effect of loan size and education on decision

making empowerment does not depend on level of education. The coefficient of age (Age) is not significant in the case of sometimes ability relative to no ability. However, in full ability compared to no ability, the coefficient of age is positive and significant. The coefficient of the family size variable is positive and significant in both sometimes ability and full ability compared to no ability, indicating that family size (FSize) has a positive effect on women's economic decision making. The coefficient of variable income (Inc) is positive and significant in both sometimes ability and full ability compared to no ability. In both, sometime ability and full ability compared to no ability, marital status (MS) is not significant.

4.3.8 Impact of Change in the Explanatory Variable in the Woman's Economic Decision Making Empowerment (WE)

The marginal effect of loan size (LSize) on the probability of fully able to make an economic decision making is significant. In particular, if a woman gets more loan, the probability of being fully able to make economic decision making is expected to rise by 0.001 percent. On the other hand, if a woman gets more loan, the probability of not able and sometimes to make economic decision making is expected to fall. In Table 4.20 the coefficients of all variables are consistent with the result of Table 4.16. The only difference is that the coefficient of age is now insignificant.

Table 4.20
Marginal Effect of the MNLM (*Full Sample*)

Variable	No ability	Sometimes ability	Full ability
Age	.000	.000	-.000
	(0.252)	(0.887)	(0.609)
Edu	-.003	-.008	.011*
	(0.202)	(0.210)	(0.085)
FSize	-.005	-.007	.013
	(0.061)	(0.331)	(0.108)
Inc	-.036	-.103*	.206***
	(0.000)	(0.087)	(0.002)
MS	.506***	-.000	-.506***
	(0.004)	(0.997)	(0.001)
LSize	-2.12 ***	-9.666**	.00001***
	(0.000)	(0.013)	(0.005)

Note: ***, ** and * denote that the corresponding coefficient is significant at the 1%, 5% and 10% level, respectively. The figures in parenthesis are p-values. No ability is the base outcome.

4.3.9 The Effect of Microfinance and Other Variables on Woman's Economic Decision Making Empowerment (WE) (Multinomial Probit)

The analaysis has shown in the results of the estimation of the multinomial logit model that women who have larger loan size are more empowered in economic decision making than those compared to those with a small loan. Table 4.21 shows that overall the model is statistically significant as the Prob > chi^2 = 0.0000.

To verify that the results are robust we also estimated using the multinomial probit model. The result is shown in Table 4.21. In both, full ability and sometimes ability relative to no ability, the coefficient of the loan size (LSize) variable is positive and

significant at 1 percent indicating that loan size positively affects women's economic decision making.

In full ability relative to no ability, the coefficient of education (Edu) is also positive and significant. This indicates that education has positively affected women's economic decision making.

Table 4.21
Results of Multinomial Probit Estimation (Full Sample)

Model 2	**Sometimes ability relative to No ability**		**Full ability relative to No ability**	
	Coef.	Std. Err.	Coef.	Std. Err.
Cons	-.628	.400	-2.367	.422
Age	.005	.006	.014	.007**
Edu	.075	.059	.197	.057***
FSize	.052	.030	.085	.031***
Inc	7.41	2.786***	9.67	2.890***
MS	-.183	.256	.258	.251
LSize	.000	.000***	.000	.000***
Edu* LSize	-1.73	5.980	-5.35	5.730

Wald chi2(14) = 259.17
Log likelihood = -608.32128
Prob > chi2 = 0.0000

Note: ***, ** and * denote that the corresponding coefficient is significant at the 1%, 5% and 10% level, respectively. No ability is the base outcome.

In the case of age (Age), we found that in sometimes ability relative to no ability the coefficient of age is not significant. However, in the case of full ability relative to no ability, the coefficient of age is significant at 5 percent and is positively related to

economic decision making. In full ability compared to no ability the coefficient of the family size (FSize) is significant at one percent and positively related with economic decision making.

The income (Inc) variable is positive and significant at 1 percent in both sometimes ability and full ability compared to no ability. The marital status (MS) is not significant in full ability decision making and sometimes ability decision making relative to no ability in decision making. The results indicate that all the results are consistent with the result of the multinomial logit model.

4.3.10 Conclusion of Women Decision Making Empowerment (Model 1 and Model 2)

Models 1 and 2 show the effect of microfinance on economic decision making of women. The difference between the two models is that this study include microfinance involvement dummy variable in model 1 while in model 2, instead of microfinance involvement, we include loan size while other independent variables are the same in both models indicating that loan size positively affects women's economic decision making. The results of multinomial logit estimation of model 1 and model 2 are in term of the control variable. In model 2, the coefficient of the loan size variable is positive and significant at 1 percent shows that overall the model is statistically significant as the Prob > chi^2 = 0.0000. In model 1 the coefficient of the microfinance involvement dummy variable is positive and significant at 1 percent indicating that women with

microfinance have more ability in economic decisions compare to those without microfinance involvement.

In both models 1 and 2, the coefficient of age is significant at 5 percent and is positively related to economic decision making. The coefficient of education is also positive and significant at 1 percent. This indicates that education positively affects women's economic decision making in both models 1 and 2. The coefficient of family size is significant and positively related with economic decision making in both models 1 and 2. The income variable is positive and significant in the both models 1 and 2. The marital status is not significant in models 1 and 2. Hence, we can conclude that the results of model 1 are consistent with the result of model 2.

4.4 Microfinance and Women's Freedom of Movement (WM)

In this section, we discuss the results of both involvement in microfinance and loan size effect on women's freedom of movement empowerment.

4.4.1 Effect of Involvement in Microfinance on Women's Economic Decision Making Empowerment

Before we estimate the model, we check whether the model satisfied the IIA assumption.

4.4.2 Model Specification

Before the multinomial logit model is estimated, we have to make sure that these IIA assumptions are satisfied. The chi square of the "no freedom" category has negative sign.

Table 4.22
Independence of Irrelevant Alternatives (IIA) Tests for MNL

Omitted	Full sample			Evidence
	chi2	Df	P>chi2	
No freedom	-0.508	8	1.000	Can't reject Ho
Sometimes freedom	2.723	8	0.951	Can't reject Ho
Full freedom	1.284	8	0.992	Can't reject Ho

On the base of the studies of Cheng and Long (2007), Long and Freese (2006), McFadden (1984, p. 1226) and McFadden (1974) the negative value of chi-square study does not indicate violation of IIA assumption. The Hausman test result in Table 4.22 shows all the categories (no freedom, sometimes freedom and full freedom) fulfill the requirement of IIA assumption.

4.4.3 Result of the Effect of Involvement in Microfinance on Woman's Freedom of Movement (WM)

Table 4.23 shows that overall the model is statistically significant as the Prob > chi^2 = 0.0000. The hypothesis is women who are involved in these micro-credit programs will be more empowered in freedom of movement. The multinomial logit model was used to examine the effect of microfinance on women's freedom of movement. Later, we will also discuss the estimation results of the multinomial probit model to determine whether the results were robust to different estimation.

In the first model, freedom of movement empowerment is the dependent variable while age (Age), respondent's education (Edu), family size (FSize), respondent's annual income (Inc), marital status (MS), involvement in microfinance (MFI) and interaction term between education and microfinance are included as the independent variables. As education is a very important factor to reduce poverty and to empower women, we also hypothesized that the effect of microfinance on women's empowerment depends on the level of education. Hence this study also included the interaction term between microfinance and education as one of the independent variable.

Table 4.23 presents the results of the multinomial logit model estimation. The result shows that, in both full freedom and sometimes freedom relative to no freedom, the variable microfinance involvement (MFI) is positive and significant at 1 percent indicating a positive effect on women's freedom of movement. In full freedom

relative to no freedom, the variable microfinance involvement is also highly significant at 1 percent and positively related to the empowerment of freedom of movement. Hence, in both cases, the involvement of women in microfinance positively affects women's freedom of movement.

The result of this study can be explained as follows. The non-borrowers usually remain in-door and feel hesitation to go to banks, markets, or to other villages. Usually, they need to get permission to go outside and if permitted, sometimes male family member accompany them. On the other hand, women's borrowers go out-door for her business purpose. This enhances her confidence to go outside by going to the banks, markets, and other places on her own. Usually, they do not need to get permission to go outside their home like the non-borrowers. Nessa (2011) found involvement with microfinance as a significant predictor of woman's freedom of movement empowerment. By involving with microfinance they have a greater role in physical mobility. By using their loan for micro-business, their income increases that ultimately improves their freedom of movement. The results of the study are similar to Banu *et al.* (2000), Cheston and Kuhn (2002), Hunt and Kasynathan (2002), Hasherni *et al.* (1996), Kavitha (2007), Mayoux (2006) and Parveen (2007).

In Pakistan, majority of the women are not even allowed to avail the health facilities independently instead they have to rely on male members of their family to see doctors (Pasha and Palanivel, 2003). Pakistan is a male dominant society especially in

rural areas where female is encouraged by male to stay at home and follow the decision made by men. Women don't raise their voices to get their rights of empowerment because their livelihoods depend on men and they don't have options and capital to make money. If women are involved in business, they will have a greater role in physical mobility and they can support their livelihood themselves. But in Pakistan lack of finance is the key problem which stops the women to start their own business (Shabbir and Gregorio, 1996). Microfinance institutions provide microcredit to women to help them to start their own business. By involving them in microfinance industry and in this way they would have a greater role in physical mobility. By using their loan for micro-business, their income increases, ultimately improving their freedom of movement.

The coefficient education (Edu) is positive and significant in the case of full freedom relative to no freedom. The results of this study indicate that education has a positive effect on women's freedom of movement, since more educated women are more free than uneducated women. The result could be because educated girls experienced going out to school (outdoor) since childhood. Later, they get habituated and feel free to go out. So, they would become confident and free because of their social network in class and for survival. Coefficient of education is not significant in the case of sometimes freedom relative to no freedom. The coefficient of the interaction term between education and microfinance is not significant, indicating that the effect of

microfinance and education on freedom of movement empowerment does not depend on level of education. The result can be explained as follows.

In the context of direct impact of formal education on empowerment, this study concluded that education has positive and significant impact on women's physical movement. However, the effect of microfinance on women's empowerment does not depend on education. It is argued that it is not necessary if the formal education has direct significant impact between education and empowerment, it must have significant impact in indirect relationship between education, microfinance involvement and empowerment. Individual can be educated through any type of knowledge like formal education, informal education, through media and tacit knowledge. Although, most of the respondents are illiterate but most of them have tacit and informal education. May (2008) confirms the relationships between tacit education and empowerment.

In the context of indirect relationship, the coefficient of the interaction term between education and microfinance is not significant, indicating that the effect of microfinance and education on empowerment (freedom of movement) does not depend on level of education. This result indicates that the success of the micro business does not depend on the level of formal education. When women borrow loan from microfinance institutions, women directly start physical movement and make decision to start their business activities whether they are educated or not. It is not

compulsory that the effect of microfinance and education on freedom of movement depends on level of education.

Formal education is a predictor of women's freedom of movement (Nissa, 2014). In Pakistan, majority of the women do not have formal education. The educated girls have experience of going out to school since their childhood. Later, they get habituated and feel free to go out (Yasmeen and Karim, 2014). Government and UN can enhance women's freedom of movement through providing them formal education.

The coefficient of age (Age) is not significant in the case of sometimes freedom relative to no freedom. However, in full freedom compare to no freedom, the coefficient of age is positive indicating a positive effect of age on women's empowerment in freedom of movement. A little girl can face difficulties if she goes out-door because of her lack of maturity and interaction with people. As the women's age increase, she experiences many things and becomes more mature. This experience and maturity lead her to be brave in resulting outside their home.

Coefficient of the family size (FSize) variable is positive and significant in both sometimes freedom and full freedom compared to no freedom, indicating that family size has a positive effect on women's freedom of movement. A large family size enables household members to take care of one another and have more respect towards women.

Table 4.23
Results of Multinomial Logit Estimation (Full Sample)

Model 3	**Sometimes freedom relive to No freedom**		**Full freedom relive to No freedom**	
	Coef.	Std. Err.	Coef.	Std. Err.
Cons	-2.489	.537	-3.728	.488
Age	.002	.009	.025	.008***
Edu	.046	.083	.189	.060***
FSize	.076	.038**	.065	.033**
Inc	9.480	2.846***	.000	.640***
MS	.290	.348	.756	.288***
MFI	.831	.220***	1.332	.199***
Edu* MFI	-.000	.002	-.001	.002

LR chi2 (14) = 141.71
Prob > chi2 = 0.0000
Log likelihood = -692.10649
Pseudo R2 = 0.0929

Note: ***, ** and * denote that the corresponding coefficient is significant at the 1%, 5% and 10% level, respectively. No freedom is the base outcome.

The coefficient of variable income (Inc) is positive and significant in both sometimes freedom and full freedom compared to no freedom. As income increases, women's empowerment in freedom of movement will increase because when she has money she can contribute to her family. Her contribution to the family makes her more important and that makes her to get her right of freedom. In addition, women's income has positive relationships with her freedom of movement because working women do not only have strong influence in the family but can be more aware about her right of freedom.The marital status (MS) is not significant in sometimes freedom

compared to no freedom, but marital status is significant at 1 percent in full freedom relative to no freedom.

4.4.4 Impact of Change in the Explanatory Variable on Women's Freedom of Movement Empowerment (WM)

The marginal effect of a given variable on the probability of having freedom of movement (no freedom, sometimes freedom and full freedom) is a function of all of the estimated coefficients. Hence, we proceed by calculating the marginal effect of each explanatory variable on the probability of having to get freedom of movement. As documented in Table 4.24 we find the following results:

First, the marginal effect of involvement in microfinance (MFI) on the probability of full freedom is significant. In particular, if a woman is involved in microfinance the probability of full freedom is expected to rise by 21.9 percent, while the probability of getting sometimes freedom is expected to rise by 4.9 percent. The probability of no freedom is expected to fall by 26.8 percent.

Second, the marginal effect of respondents' education (Edu) on the probability of getting freedom of movement is significant for full ability only. In particular, if the education of a respondent increases by one year, the probability of getting full freedom is expected to rise by 2.7 percent. The result indicates that the probability of being more empowered in terms of freedom of movement increases with level of education. In sometimes freedom, if the education of a respondent increases by one

year, the probability of getting sometimes freedom is expected to fall by 0.1 percent and no freedom is expected to fall by 2.6 percent.

Third, the marginal effect of respondent's age (Age) on the probability of having freedom of movement is significant for full freedom only. In particular, if the age of a respondent increases by one year, the probability of getting full freedom of movement is expected to rise by 0.4 percent. The result shows that women's empowerment in term of freedom of movement increases with age. These results show that full freedom appears to cater to older people, while no freedom and sometimes freedom seem to be indifferent towards the age of the respondent.

Fourth, in particular, if the number of family size (FSize) increases by one from its mean value, the probability of getting full freedom is expected to rise by 0.9 percent. On the other hand, the probability of getting sometimes freedom is expected to rise by 0.8 percent and the probability no freedom is expected to fall by 1.7 percent.

Fifth, the marginal effect of the annual income (Inc) of respondents on the probability of getting full freedom and sometimes freedom is significant. In particular, if the amount of annual income of respondent increases by PKR 1000 from its mean value of income, the probability of getting full freedom is expected to rise by 19.1 percent. The coefficient of income in the probability of getting sometimes freedom is expected to rise by 76.9 percent. The probability of no freedom is expected to fall by 26.8 percent if income increases by PKR 1000. These results suggest that getting no

freedom appears to be resulting in relatively low income while full freedom and sometimes freedom is related to relatively high income.

Table 4.24
Marginal Effect of the MNLM (*Full Sample*)

Model 3	**No freedom**	**Sometimes freedom**	**Full freedom**
Age	-.003 ** (0.023)	-.001 (0.467)	.004*** (0.002)
Edu	-.026*** (0.001)	-.001 (0.823)	.027*** (0.000)
FSize	-.017 ** (0.022)	.008 (0.147)	.009 (0.176)
Inc	-0.268 *** (0.000)	0.769** (0.030)	0.191*** (0.000)
MS	-.143** (0.028)	-.001 (0.979)	.144 ** (0.012)
MFI	-.268*** (0.000)	.049 (0.110)	.219*** (0.000)

Note: ***, ** and * denote that the corresponding coefficient is significant at the 1%, 5% and 10% level, respectively. The figures in parenthesis are p-values. No freedom is the base out come.

Sixth, the marginal effect of marital status (MS) of respondent on the probability of getting full freedom is significant. In particular, if the respondent gets married, the probability of getting full freedom is expected to rise by 14.4 percent. The marginal

effect of marital status on the probability of getting sometimes freedom is not significant. The probability of getting sometimes freedom and no freedom is expected to fall by 0.1 percent and 14.3 percent, respectively if the respondents get married.

The results suggest that no freedom appears to be related to unmarried women while the full freedom is related to married women.

4.4.5 The Effect of Microfinance and Other Variables on Woman's Freedom of Movement Empowerment (WM) (Multinomial Probit)

We have discussed the results to answer our hypothesis, that women who are involved in microfinance are more empowered in freedom of movement. To determine whether these results are robust, we also apply the multinomial probit model. The results are shown in The Table 4.25 shows that overall the model is statistically significant as the Prob > chi^2 = 0.0000.

The results show that, in both sometime freedom relative to no freedom, full time freedom relative to no freedom the coefficient of the variable microfinance involvement is positive and significant at 1 percent, indicating that involvement in microfinance (MFI) has a positive effect on women's freedom of movement empowerment. Hence, the results are consistent with the result of the multinomial logit model. The coefficients of all the other variables are also consistent with the result of the multinomial logit model.

Table 4.25
Results of Multinomial Probit Estimation (Full Sample)

Model 3	**Sometimes freedom relative to No freedom**		**Full freedom relative to No freedom**	
	Coef.	Std. Err.	Coef.	Std. Err
Cons	.003	.007	.020	.006
Age	.003	.007	.020	.006***
Edu	.042	.059	.150	.049***
FSize	.058	.028**	.051	.026**
Inc	7.190	.126***	9.350	.050***
MS	.208	.257	.601	.230***
MFI	.667	.1661***	1.072	.156***
Edu* MFI	-.000	.001	-.001	.001
Wald chi2 (14) = 121.66 Log likelihood = -691.94092 Prob > chi2 = 0.0000				

Note: ***, ** and * denote that the corresponding coefficient is significant at the 1%, 5% and 10% level, respectively. No freedom is the base outcome

Hence education (Edu) has a positive and insignificant effect on women's freedom of movement empowerment in sometimes freedom compares to no freedom. The coefficient of age (Age) is insignificant in the case of sometime freedom relative to no freedom condition. However, it is positively significant in full freedom compared to no freedom. Age is highly significant at 1 percent and positively related with freedom of movement. The family size (FSize) variable has a positive significant effect on women's freedom of movement. Likewise, variable income (Inc) has positively significant effect on women's freedom of movement. The coefficient of marital status (MS) is significant in the case of full freedom relative to no freedom condition.

4.4.6 Effect of Loan Size on the Woman's Freedom of Movement Empowerment

This section discusses the effect of loan size on the woman's freedom of movement empowerment.

4.4.7 Model Specification

On the base of the studies of Cheng and Long (2007), Long and Freese (2006), McFadden (1984, p. 1226) and McFadden (1974) the negative value of chi-square study does not indicate violation of IIA assumption. The Hausman test result in Table 4.26 shows that all the categories (no freedom, sometimes freedom and full freedom) fulfil the requirement of IIA assumption.

Table 4.26
Independence of Irrelevant Alternatives (IIA) Tests for MNL

	Full sample			
Omitted	**chi2**	**Df**	**P>chi2**	**Evidence**
No freedom	-0.319	5	1.000	Can't reject Ho
Sometimes freedom	2.394	5	0.603	Can't reject Ho
Full freedom	3.943	5	0.558	Can't reject Ho

4.4.8 Effect of Loan Size on the Woman's Freedom of Movement Empowerment

Table 4.27 shows that overall the model is statistically significant as the Prob > chi^2 = 0.0000. The multinomial logit model was estimated to examine the effect of loan size (LSize) and other variables on women's freedom of movement empowerment. The only difference between model 3 and model 4 is that the variable involvement in

microfinance is replaced with the variable loan size, while all other variables remain the same. Later, we also discuss the estimation results of the multinomial probit model to determine whether our results are robust to different estimation. The result of the estimation of the multinomial logit model is presented in Table 4.27.

The result shows that, in both sometimes freedom and full freedom relative to no freedom, the coefficient of the variable loan size is positive and significant at the 1 percent level indicating a positive effect of loan size on women's freedom of movement. This can be explained as follows. With small loan size, female borrowers do small size businesses, but with a large amount of loan, the women can do larger size businesses. Women who do small size businesses do not have much physical movement compared to those women who operate large size businesses. Hence, women with large businesses tend to have more movement running her business and they frequently travel out-door, go to banks, markets, or to other villages for their business purpose. Usually, they do not need to get permission to go outside their house. Women with small businesses also travel, but not as frequently as women with large business. Nessa (2011) found that loan size is a significant predictor of women's freedom of movement empowerment. Large amount of loan size leads to large businesses, leading to more social contacts and physical movement that ultimately improves their freedom of movement. Hunt and Kasynathan (2002), Mayoux (2006), Parveen (2007) and Tuseef (2011) also found there is a positive relationship between freedom of movement and loan size.

The results of other variables are consistent with the result of model 3 where the independent variable is involvement in microfinance (MFI). In sometimes freedom relative to no freedom, education is not significant. However, the coefficient of variable education (Edu) is positive and significant at 1 percent in full freedom relative to no freedom, indicating that education has a positive effect on women's empowerment in freedom of movement.

Table 4.27
Results of Multinomial Logit Estimation (Full Sample)

Model 4	**Sometimes freedom relative to No freedom**		**Full freedom relative to No freedom**	
	Coef.	Std. Err.	Coef.	Std. Err.
Cons	-2.371	.523	-3.430	.469
Age	.002	.009	.022	.007***
Edu	.103	.074	.182	.061***
FSize	.081	0.033**	.069	.033**
Inc	9.15	2.81***	.000	2.626***
MS	.235	.347	.678	.287**
LSize	.000	.000***	.000	.000***
Edu*LS	-4.700	5.088	-4.016	4.126
LR chi2 (14) = 133.0				
Probe > chi2 = 0.0000				
Log likelihood = -696.44263				
Pseudo R2 = 0.0872				

Note: ***, ** and * denote that the corresponding coefficient is significant at the 1%, 5% and 10% level, respectively. No freedom is the base outcome.

The coefficient of the interaction term between education and loan size (LSize) is not significant, indicating that the effect of loan size and education on freedom of

movement empowerment does not depend on level of education. The coefficient of age is not significant in the case of sometimes freedom relative to no freedom. However, in full freedom compared to no freedom, the coefficient of age (Age) is positive and significant at 1 percent. The coefficient of the family size (FSize) variable is positive and significant in both sometimes freedom and full freedom compared to no freedom, indicating that family size has a positive effect on women's freedom of movement.

The coefficient of variable income (Inc) is positive and significant at 1 percent in both sometimes freedom and full freedom compared to no freedom. In full freedom compared to no freedom, marital status (MS) is significant.

4.4.9 Impact of Change in the Explanatory Variable in the Woman's Freedom 0f Movement Empowerment (WM)

The result of the marginal effects of independent variables on the woman's freedom of movement empowerment is presented in Table 4.28.

The marginal effect of loan size (LSize) on the probability of fully getting freedom of movement is significant. In particular, if a woman gets loan, the probability of not getting freedom is expected to fall by 0.01 percent. On the other hand, the probability of sometimes freedom and full freedom is expected to rise by 10.3 percent and 0.01 percent respectively. The coefficients of all other variables are consistent with the result of Table 4.24.

Table 4.28
Marginal Effect of the MNLM (*Full Sample*)

Variable	No freedom	Sometimes freedom	Full freedom
Age	-.003** (0.035)	-.001 (0.429)	.004*** (0.003)
Edu	-.025*** (0.002)	-.000 (0.902)	.0265*** (0.000)
FSize	-.018** (0.013)	.008 (0.125)	.009 (0.136)
Inc	-.251*** (0.000)	0.741** (0.033)	0.177 *** (0.000)
MS	-.125** (0.051)	-.006 (0.903)	.1319** (0.022)
LSize	-.0001*** (0.000)	0.103 (0.015)	.0001*** (0.000)

Note: ***, ** and * denote that the corresponding coefficient is significant at the 1%, 5% and 10% level, respectively. The figures in parenthesis are p-values.

4.4.10 The Effect of Loan Size and Other Variables on Woman's Freedom of Movement Empowerment (WM) (Multinomial Probit)

Table 4.29 shows that overall the model is statistically significant as the Prob > chi^2 = 0.0000. We have shown in the results of the estimation of the multinomial logit model that women who have larger loan size (LSize) are more empowered in freedom of movement compared to those with a small loan. To verify that the results are robust we also estimate using the multinomial probit model. The result is shown in Table 4.29. In both, full freedom and sometimes freedom relative to no freedom, the coefficient of the loan size variable is positive and significant at 1 percent indicating

that loan size positively affects woman's freedom of movement. In full freedom relative to no freedom, the coefficient of education (Edu) is also positive and significant. This indicates that education has positively affected woman's freedom of movement.

Table 4.29
Results of Multinomial Probit Estimation (Full Sample)

Model 4	**Sometimes freedom relative to No freedom**		**Full freedom relative to No freedom**	
	Coef.	Std. Err.	Coef.	Std. Err.
Cons	-1.891	.388	-2.781	.3693
Age	.003	.006	.018	.006***
Edu	.083	.056	.147	.049***
FSize	.062	.028**	.055	.026**
Inc	6.98	2.12***	8.740	2.05***
MS	.167	.257	.545	.230**
LSize	.000	.000***	.000	9.760***
Edu*LS	-3.650	3.780	-3.171	3.280
Wald chi2 (14) =	113.85			
Log likelihood =	-696.09401			
Prob > chi2 =	0.0000			

Note: ***, ** and * denote that the corresponding coefficient is significant at the 1%, 5% and 10% level, respectively. No freedom is the base outcome.

In the case of age (Age), we found that in sometimes freedom relative to no freedom the coefficient of age is not significant. However, in the case of full freedom relative to no freedom, the coefficient of age is significant at 1 percent and is positively related to freedom of movement. In full freedom and sometimes freedom compared to no freedom the coefficient of the family size (FSize) is significant at 5 percent and

positively related with freedom of movement. The income (Inc) variable is positive and significant at 1 percent in both sometimes freedom and full freedom compared to no freedom. The marital status (MS) is significant only in full freedom relative to no freedom. The results indicate that all the results are consistent with the result of the multinomial logit model.

4.4.11 Conclusion of Women's Freedom of Movement Empowerment (WM) (Model 3 and Model 4)

Model 3 and model 4 are used to test for factor affecting the women's freedom of movement. The difference between the two models is that we include microfinance involvement dummy variable in the model 3 while in model 4, instead of microfinance involvement, we include loan size while other independent variables are the same in both models.

In model 4, the coefficient of the loan size variable is positive and significant indicating that loan size positively affects women's freedom of movement. In model 3 the coefficient of the microfinance involvement dummy variable is positive and significant, indicating that women with microfinance have more mobility compared to those without microfinance involvement.

In both models 3 and 4, the coefficient of age is significant and is positively related to women's freedom of movement. The coefficient of education is also positive and significant. This indicates that education positively affects women's freedom of

movement in both models 3 and 4. The coefficient of family size is significantly related to women's freedom of movement in both models 3 and 4. The income variable is positive and significant in the both models 3 and 4. The marital status is significant in both models. Hence, we can conclude that the results of model 3 are consistent with the result of model 4.

4.5 Microfinance and Women's Satisfaction (WS)

In this section, we discuss the results of both involvement in microfinance and loan size effect on women's satisfaction.

4.5.1 Effect of Involvement in Microfinance on Women's Satisfaction

Before we estimate the model, we check whether the model satisfied the IIA assumption. The results are as in section 4.5.2.

4.5.2 Model Specification

Before the multinomial logit model is estimated, we have to make sure that the IIA assumptions are satisfied. On the base of the studies of Cheng and Long (2007), Long and Freese (2006), McFadden (1984, p. 1226) and McFadden (1974) the negative value of chi-square does not indicate violation of IIA assumption.

The Hausman test result in Table 4.30 shows all the categories (no satisfaction, sometimes satisfaction and full satisfaction) fulfill the requirement of IIA assumption.

Table 4.30
Independence of Irrelevant Alternatives (IIA) Tests for MNL

	Full sample			
Omitted	**chi2**	**Df**	**P>chi2**	**Evidence**
Not satisfied	-0.366	6	1.000	Can't reject Ho
Sometimes satisfied	-130.255	6	1.000	Can't reject Ho
Fully satisfied	-1.240	6	1.000	Can't reject Ho

4.5.3 Effect of Involvement in Microfinance on Woman's Satisfaction (WS)

Table 4. 31 shows that overall the model is statistically significant as the Prob > chi^2 = 0.0000. The hypothesis is that women who are involved in micro-credit programs are more satisfied. The multinomial logit model was used to examine the effect of microfinance on women's satisfaction. Later, we also discuss the estimation results of the multinomial probit model to determine whether our results were robust to different estimation. In this first model, satisfaction was the dependent variable while age (Age), respondent's education (Edu), family size (FSize), respondent's annual income (Inc), marital status (MS), women empowerment (Wemp), involvement in microfinance (MFI) and interaction term between education and microfinance was taken as the independent variables. As education is a very important factor to reduce poverty and to satisfy individual quality life, we also hypothesized that the effect of microfinance on women's satisfaction depends on the level of education. Hence we also included the interaction term between microfinance and education as one of the independent variable.

Table 4.31 presents the results of the multinomial logit model estimation. The result shows that, in full satisfaction relative to no satisfaction, the variable microfinance involvement (MFI) is positive and significant at 1 percent indicating a positive effect on women's satisfaction. In sometimes satisfied relative to not satisfy, the coefficient of variable microfinance involvement is not significant. Hence, the involvement of women's in microfinance positively affects women's satisfaction. This can be explained as follows. The women non-borrowers usually remain in-door and do not contribute to household income. The financial burden is on the male members of the household. According to our data, the family size of non-borrowers is quite large, resulting in incapability to meet the needs of all household members. This affects the emotions of women, feeling inferior for not contributing to household wealth. This does not affect positively on women's health and satisfaction to Life. On the other hand, the women borrower, by doing business contributes to household income. They shared financial burden by contributing to their family and household life.

Hence, making them empowered, emotionally strong and independent. This eventually lifts their emotions, good health and family bonding among the members resulting in satisfaction. In Pakistan, lack of finance reduces woman's life satisfaction (Sadiq, 2014; Shabbir and Gregorio, 1996). Microcredit can help the women by involving them in business through providing them microcredit. Based on the results, by involving in business through microfinance business, women can make money and can enjoy life with satisfaction along with contributing to their household.

Table 4.31
Results of Multinomial Logit Estimation (Full Sample)

Model 5	**Sometimes satisfied relative to Not satisfied**		**Fully satisfied relative to Not satisfied**	
	Coef.	Std. Err.	Coef.	Std. Err.
Cons	-1.069	.960	2.993	.797
Age	.011	.0148	-.030	.012**
Edu	-.470	.392	-.064	.088
FSize	.209	.080	.159	.071**
Inc	-3.400	5.320	-1.666	3.996
MS	-.5804	.509	-.965	.405**
MFI	.676	.589	1.540	.517***
Wemp	.727	.327	.880	.278***
Edu* MFI	.003	.010	-.000	.003

LR chi2 (16) = 110.13
Probe > chi2 = 0.0000
Log likelihood = -333.32845
Pseudo R2 = 0.1418

Note: ***, ** and * denote that the corresponding coefficient is significant at the 1%, 5% and 10% level, respectively. Not satisfied is the base outcome.

The results also show that the coefficient of the variable of women's empowerment (Wemp) is positive and significant in both sometimes satisfied and fully satisfied as compared to not satisfied indicating that empowerment has a positive effect on women's satisfaction. Ali and Haq (2006) argued that in Pakistan women's less empowerment decreases woman's life satisfaction. The government and non-government agencies like UN can increase women's satisfaction through promoting women's empowerment program.

The coefficient of education (Edu) is not significant in both cases of full satisfaction and sometimes satisfied relative to not satisfy. This can be explained as follows. In Pakistani society, some husband feel complex when their wives are more educated than them. They want to be dominant on wives, for this they adopt different way to overcome on wives and behave in unpleasant way which decreases wives's satisfaction. Additionaly, educated woman knows about her rights and her perception in understanding other's personality become good compare to uneducated woman. When educated woman's family member or other individual try to make her fool, she can not argure freely particularly with husband because of social and culture barriers. This situation leads the women to low level of satisfaction to life. The coefficient of the interaction term between education and microfinance is not significant, indicating that the effect of microfinance and education on satisfaction does not depend on level of education. Gong *et al.* (2011) found that the partial effect of the achievement of education in the different part of life satisfactions in Australia. The younger age group had a relatively higher education, but lower satisfaction level on average. Campbell (1981) and Witter *et al.* (1984) found in their study that there is a weak relationship between education and happiness.

The coefficient of age (Age) is negatively significant in sometimes satisfied relative to not satisfy. This can be explained as follows. Women struggle all their life for survival and sometimes face unstable situations and social restrictions. Their struggling in fulfilling their desire can cause them to be stressed, reducing their

satisfaction. Raj (2008) concluded that increase in age overall decreases the life satisfaction. In addition, in the sample of the present study, most of the women are young. According to some previous studies, younger age women have a negative relationship with the satisfaction. Hence, the present study also confirms the U-shaped relationship between age and satisfaction. Ree and Alessie (2010) found that satisfaction has a U-shaped relationship with age. In the first part of life, satisfaction decreases with age. Oswald and Blanchflower (1997, 2008) found a U-shaped relationship between satisfaction and age up to 75 years old. Satisfaction decreases with older people. Age has negative relationship with satisfaction during young age and this relationship after 30's declines.

The coefficient of the family size (FSize) variable is positive and significant in sometimes satisfied compared to not satisfied. A large family size enables household members to take care of one another and have more respect towards women. Hence, we can see a positive effect of family size on women's satisfaction. The results support Bandyopadhyay *et al.* (2011) that found a positive relationship between family size and happiness.

The variable income (Inc) is insignificant in both sometimes satisfied and fully satisfied relative to not satisfy. The results show that income does not have an effect on satisfaction. Brickman *et al.* (1978) argued that there are mixed results about the impact of income on satisfaction. Economist argued that higher income leads to

higher levels of happiness and causes satisfaction like emotions and feelings. However, psychologists do not support the idea that income leads to higher happiness. In addition, some economists do not share the idea that higher income leads to higher happiness. Festinge (1954) argued in his social comparison theory that people compare themselves to others. If they are equal or in better condition than the others they will be satisfied. Hence, on the basis of social comparison theory, we can conclude that money is not the only factor that produces satisfaction.

Coefficient of the marital status (MS) variable is negatively significant in sometimes satisfied compared to not satisfied. This can be explained as follows.. In Pakistan, girls get married at the early age. In our sample, most of the respondents are young and 86 percent women are married. Second, in Pakistan the birth rate is high, the country is the world's sixth highest populated country with 31 births/ 1,000 population (Shukat, 2009). When a woman has children, she has many responsibilities. They are struggling in fulfilling their desire can cause them to be stressed reducing satisfaction.

Furthermore, Tariq (2010) explains the married women's situation. First, he found, in prevailing culture of Pakistan a husband can divorce his wife at any time without any legal complications and without giving her much compensation. Moreover, the future of divorced woman becomes insecure and unpredictable especially when she does not have any shelter and economic resources. Commonly, most of the divorced women

are not properly accepted by the society as well as by the members of their parental family. Therefore, fear of divorce, forces women to compromise and accept the subordinate status in their husbands' house which decrease their life satisfaction. In Pakistani culture, women should compromise with the situation and should not show such attitude that causes divorce." This point of view is a cultural message which suggests that women should not react against any severe action of husband and try to compromise even in any adverse situation, in other words this message is an indication of women's helplessness and dissatisfaction to life. All these views indicated that most of divorced women are not accepted and respected in the society and therefore, they do not want divorce. In order to avoid divorce they have to compromise with the situation and accept the subordinate status.

Second is about parent's attitude to their daughters. Some key informant thought the main cause of threat of divorce lies in traditional marriages where a young bride is handed over to the bridegroom without doing any agreement about her protection and economic security. Furthermore, most of the parents give following message to their daughters at the time of their marriage, you are going to your husband's house in wedding dress and you must leave this house in shroud (coffin). The main theme of this message is: not to leave the husbands' or in-laws' house till death, in spite of hardships or unpleasant attitude of husband or in-laws. This message has been passing from one generation to another and providing safe passage to men to exploit women.

However, some husbands force the women to make love without their desire of making love. If she refueses, she is insulted by husband and faces domestic violence. Sometimes husbands misinterpret to their religion by telling their wives, in Islam, women must have sex when husband want to have sex. Even when female is unwilling, she make love with her husband in the name of religion and this situation decrease her satisfaction to life.

4.5.4 Impact of Change in the Explanatory Variable on Women's Satisfaction

The marginal effect of a given variable on the probability of having satisfaction (not satisfied, sometimes satisfied and fully satisfied) is a function of all of the estimated coefficients. Hence, we proceed by calculating the marginal effect of each explanatory variable on the probability of being satisfied. As documented in the Table 4.32, we find the following results.

First, the marginal effect of involvement in microfinance (MFI) on the probability of fully satisfied is significant. In particular, if a woman involves in microfinance, the probability of being fully satisfied is expected to rise by 9.4 percent, while the probability of being sometimes satisfied is expected to fall by 4.5 percent. The probability of not satisfied is expected to fall by 4.8 percent. These results suggest that by involving in microfinance, women can increase their full satisfaction while reducing less satisfaction.

Second, the marginal effect of respondents' education (Edu) on the probability of getting full satisfaction is significant. In particular, if the education of a respondent increases by one year, the probability of getting full satisfaction is expected to rise by 1.4 percent. The result indicates that the probability being fully satisfied increases with level of education. In sometimes satisfaction, if the education of a respondent increases by one year, the probability getting sometimes satisfaction is expected to fall by 1.7 percent. The probability of not satisfied is expected to rise by 0.2 percent.

Table 4.32
Marginal Effect of the MNLM (*Full Sample*)

Variable (Model 5)	**Not satisfied**	**Sometimes satisfied**	**Fully satisfied**
Age	.0008**	0.002***	-.003***
	(0.035)	(0.001)	(0.000)
Edu	.002	-.017**	.014**
	(0.227)	(0.030)	(0.067)
FSize	-.004**	.003	.001
	(0.029)	(0.214)	(0.606)
Inc	0.549	-.998	0.449
	(0.652)	(0.640)	(0.853)
MS	.0290**	0.203	-.049**
	(0.031)	(0.367)	(0.068)
MFI	-.048***	-.045**	.094***
	(0.002)	(0.020)	(0.000)
Wemp	-.026***	-.007	.033**
	(0.002)	(0.543)	(0.020)

Note: ***, ** and * denote that the corresponding coefficient is significant at the 1%, 5% and 10% level, respectively.The figures in parenthesis are p-values. Not satisfied is the base outcome.

Third, the marginal effect of women's empowerment (Wemp) on the probability of fully satisfied is significant. In particular, if a woman is empowered the probability of fully satisfied is expected to rise by 2 percent while the probability of sometimes satisfied is expected to fall by 0.7 percent. The probability of not satisfied is expected to fall by 2.6 percent. These results suggest that by empowerment women can increase their full satisfaction while reducing less satisfaction.

Fourth, if the age (Age) of a respondent increases by one year, the probability of getting full satisfaction is expected to fall by 0.3 percent, while the probability of sometimes satisfied is expected to rise by 0.2 percent. The probability of not satisfied is expected to rise by 0.08 percent.

Fifth, in particular, if the number of family size (FSize) increases by one from its mean value, the probability of getting full satisfaction is expected to rise by 0.1 percent. On the other hand, the probability of getting sometimes satisfaction is expected to rise by 0.3 percent and the probability of getting no satisfaction is expected to fall by 0.4 percent. Sixth, in particular, if the amount of annual income (Inc) of respondent increases by PKR 1000 from its mean value of income, the probability of getting full satisfaction is expected to rise by 44.9 percent. The coefficient of income in the probability of getting sometimes satisfaction is expected

to fall by 99.8 percent. The probability of getting no satisfaction is expected to rise by 54.9 percent.

Finally, in particular, if the respondent gets married, the probability of getting full satisfaction is expected to fall by 4.9 percent. The marginal effect of marital status on the probability of getting sometimes satisfaction and dissatisfaction is expected to rise by 20.3 percent and 2.9 percent, respectively.

4.5.5 The Effect of Microfinance and other Variables on Women's Satisfaction (WS) (Probit Model)

Table 4.33 shows that overall the model is statistically significant as the Prob > chi^2 = 0.0000. This study has discussed the results to answer our hypothesis that women who are involved in microfinance are more satisfied. To determine whether these results are robust, this study also estimates the multinomial probit model. The results are shown in Table 4.33.

The results show that in fully satisfied relative to not satisfied, the coefficient of the variable microfinance involvement (MFI) is positive and significant at 1 percent, indicating that involvement in microfinance has a positive effect on women's satisfaction. Hence, the results are consistent with the result of the multinomial logit model. The coefficients of all the other variables are also consistent with the result of the multinomial logit model. The variable education (Edu) is not significant, in sometimes satisfied and fully satisfied compare to not satisfied. The variable women

empowerment (Wemp) is significant, in sometimes satisfied and fully satisfied compare to not satisfied.

Table 4.33
Results of Multinomial Probit Estimation (Full Sample)

Model 5	**Sometimes satisfied relative to Not satisfied**		**Fully satisfied relative to Not satisfied**	
	Coef.	Std. Err.	Coef.	Std. Err
Cons	-.758	.632	2.320	.550
age	.007	.009	-.022	.008**
Edu	-.279	.217	-.040	.065
FSize	.135	.051***	.107	.047**
Inc	-2.086	3.286	-8.617	2.586
MS	-.329	.339	-.658	.294**
MFI	.364	.336	.965	.299***
Wemp	.419	.198**	.564	.173***
Edu* MFI	.002	.005	.000	.002
Wald chi2 (16) = 81.44				
Log likelihood = -334.62613				
Prob > chi2 = 0.0000				

Note: ***, ** and * denote that the corresponding coefficient is significant at the 1%, 5% and 10% level, respectively. Not satisfied is the base outcome.

The coefficient of age (Age) is negatively significant in sometime satisfaction relative to no satisfaction condition. The coefficient of family size (FSize) is significant in both cases sometime satisfied and fully satisffied relative to not satisfied condition. Likewise, variable income (Inc) is insignificant in the both cases sometime satisfied and fully satisfied relative to not satisfied. The coefficient of marital status (MS) is negatively significant in the case of sometimes satisfied relative to not satisfied condition.

4.5.6 Model Specification

The Hausman test is carried out to test whether the IIA assumption is satisfied with different base categories. On the base of the studies of Cheng and Long (2007), Long and Freese (2006), McFadden (1984, p. 1226) and McFadden (1974) the negative value of chi-square does not indicate violation of IIA assumption.

Table 4.34:
Independence of Irrelevant Alternatives (IIA) Tests for MNL

	Full sample			
Omitted	**chi^2**	**df**	**P>chi^2**	**Evidence**
Not satisfied	-0.319	5	1.000	Can't reject Ho
Sometimes satisfied	2.349	5	0.781	Can't reject Ho
Fully satisfied	3.943	5	.558	Can't reject Ho

The result of the Hausman test in Table 4.34 shows that the IIA has not been violated in our model. First, in the model, the chi square of the "no satisfaction" category has a negative sign. McFadden (1984, p. 1226) notes this possibility and concludes that a negative result is evidence that IIA has not been violated.

Secondly, in the category of "sometimes satisfaction" the chi square statistics indicate against Ho. However, McFadden (1974) argued that if all the categories are different from one another, like what we have in our analysis, the IIA assumption will not be violated.

4.5.7 Effect of Loan Size and Other Variables on Woman's Satisfaction (WS)

Table 4.35 shows that overall the model is statistically significant as the Prob > chi^2 = 0.0000. The multinomial logit model is used to examine the effect of loan size (LSize) and other previous independent variables on women's satisfaction. The only difference between model 5 and 6 is that the variable involvement in microfinance is replaced with the variable loan size, while other variables remain the same. Later, the researcher will also discuss the estimation results of the multinomial probit model to determine whether our results are robust to different estimation.

Table 4.35 presents the results of the multinomial logit model estimation. The result shows that, in fully satisfied relative to not satisfied, the coefficient of the loan size (LSize) variable is positive and significant at 1 percent indicating a positive effect on women's satisfaction. In sometimes satisfied relative to not satisfied the sign of the coefficient of loan size is positive but insignificant. Hence, results of this study indicate that the size of loan has a positive effect on women's satisfaction. This can be explained as follows: Women with larger size of loan are able to operate large size businesses. On the contrary women with small size of loan are only able to do small scale businesses. With a small business, the women borrower cannot make much income as she can make from large size business. Although, women with a small business can enjoy a comfortable life, women with large size businesses can make more money. This enables women who operate large size businesses to enjoy much higher quality of life and health. This leads to high level of satisfaction.

Khan (2007) found in NCSW survey of home-based workers in Pakistan, women have low earnings and low rates in the market. When they were asked what kind of legal coverage they would like to have to improve their work conditions, minority of women voted for home-based workers and majority of women voted to have big amount of loans. To increase women's satisfaction, government and non-government agencies like UN can provide funds to the microfinance institutions to grant the large loan size to women.

Table 4.35
Results of Multinomial Logit Estimation (Full Sample)

Model 6	**Sometimes satisfied relative to Not satisfied**		**Fully satisfied relative to Not satisfied**	
	Coef.	Std. Err.	Coef.	Std. Err.
Cons	-1.122	.956	3.004	.794
Age	.012	.014	-.029	.012**
Edu	-.498	.403	-.049	.091
FSize	.209	.079***	.159	.071**
Inc	-3.706	5.210	-2.236	3.890
MS	-.580	.507	-.989	.404**
LSize	.000	.000	.000	.000***
Wemp	.704	.326**	.862	.278***
Edu*LSize	6.950	.000	-4.610	8.510
LR chi2 (16) = 111.60				
Probe > chi2 = 0.0000				
Log likelihood = -332.59565				
Pseudo R2 = 0.1437				

Note: ***, ** and * denote that the corresponding coefficient is significant at the 1%, 5% and 10% level, respectively. Not satisfied is the base outcome.

With higher income, women can also hire services for household work that lesser her household burden. In addition, with higher income, women borrowers can contribute

to the financial need of the household which enable them to gain the family's respect which further leads to women's satisfaction. This result supports Becchetti (2009) which found a positive relationship between satisfaction and loan size.

The results of other variables indicate that all the results are consistent with the result of model 5 where the independent variable is with or without a loan. The coefficient of variable education (Edu) is not significant.

In this study, the coefficient of the interaction term between education and loan size (LSize) is not significant, indicating that the effect of loan size and education on satisfaction does not depend on level of education. The sign of the coefficient of age (Age) is negative and significant in the case of fully satisfied relative to not satisfied. The coefficient of the family size (FSize) variable is positive and significant in both sometimes satisfied and fully satisfied compared to not satisfied indicating that family size has a positive effect on women's satisfaction. The coefficient of variable income (Inc) is not significant in both sometimes satisfied and fully satisfied compared to not satisfied. In fully satisfied compared to not satisfied, marital status (MS) is significant, but the sign of the coefficient of marital status (MS) is negative. However, in the case of sometimes satisfied compared to not satisfied, marital status is not significant.

4.5.8 Impact of Change in the Explanatory Variable in the Woman's Satisfaction

The coefficient of the marginal effect of loan size (LSize) on the probability of full satisfaction is significant and positive. In particular, if a woman gets loan, the

probability of being fully satisfied is expected to rise by 60.3 percent. On the other hand, the probability of not satisfied and sometimes satisfied is expected to fall by 31.6 percent and 28.7 percent, respectively. In Table 4.36, the coefficients of all other variable are consistent with the result of Table 4.32.

Table 4.36
Marginal Effect of the MNLM (*Full Sample*)

Variable	Not satisfied	Sometimes satisfied	Fully satisfied
Age	.000**	.002***	-.003***
	(0.043)	(0.001)	(0.000)
Edu	.002	-.017**	.014**
	(0.184)	(0.034)	(0.078)
FSize	-.004**	.003	.001
	(0.033)	(0.224)	(0.641)
Inc	.69908	-.833	.0954
	(0.525)	(0.690)	(0.983)
MS	. .028**	.021	-.049**
	(0.031)	(0.338)	(0.064)
LSize	-.316***	-.287**	.603***
	(0.000)	(0.021)	(0.000)
Wemp	-.025**	-.007	.032**
	(0.004)	(0.517)	(0.024)

Note: ***, ** and * denote that the corresponding coefficient is significant at the 1%, 5% and 10% level, respectively. The figures in parenthesis are p-values. Not satisfied is the base outcome.

4.5.9 The Effect of Loan Size and Other Variables on Woman's Satisfaction (Multinomial Probit)

Table 4.37 shows that overall the model is statistically significant as the Prob > chi^2 = 0.0000. We have shown in the results of the estimation of the multinomial logit model that women who have larger loan size (LSize) are more satisfied than those with a small loan. To verify that the results are robust we also estimated by using the multinomial probit model.

Table 4.37
Results of Multinomial Probit Estimation (Full Sample)

Model 6	**Sometimes satisfied relative to Not satisfied**		**Fully satisfied relative to Not satisfied**	
	Coef.	Std. Err.	Coef.	Std. Err.
Cons	-.797	.630	2.329	.549
age	.008	.009	-.022	.008**
Edu	-.300	.225	.027	.066
FSize	.135	.051***	.107	.047**
Inc	-2.260	3.250	-1.270	2.570
MS	-.327	.3407	-.679	.295**
LSize	.000	.000	.000	.000***
Wemp	.4171	.198**	.571	.174***
Edu*LS	5.036	.000	-2.416	5.616

Wald chi2(16) = 80.95
Log likelihood = -333.46566
Prob > chi2 = 0.0000

Note: ***, ** and * denote that the corresponding coefficient is significant at the 1%, 5% and 10% level, respectively. Not satisfied is the base outcome.

The results shown in Table 4.37 are consistent with the previous result. In full satisfaction relative to no satisfaction, the coefficient of the loan size (LSize) variable

is positive and significant indicating that loan size positively affects women's satisfaction. The coefficients of other variables are also consistent with the result from using the multinomial logit model. The coefficient of variable education (Edu) is not significant. The coefficient of the interaction term between education and loan size is also not significant. The coefficient of the women empowerment (Wemp) variable is significant in both sometimes satisfied and fully satisfied compared to not satisfied. The sign of the coefficient of age (Age) is negative and significant in the case of fully satisfied relative to not satisfied while it is insignificant in the case of sometimes satisfied relative to not satisfied. The coefficient of the family size (FSize) variable is significant in both sometimes satisfied and fully satisfied compared to not satisfied. The coefficient of variable income (Inc) is not significant in both sometimes satisfied and fully satisfied compared to not satisfied. In full satisfaction compared to not satisfied, marital status (MS) is significant, but the sign the coefficient of marital status is negative.

4.5.10 Conclusion of Women's Satisfaction (Model 5 and Model 6)

Models 5 and 6 show the effect of microfinance and other variables on women's satisfaction. The difference between the two models is that we include microfinance involvement dummy variable in model 5 while in model 6, instead of microfinance involvement, we include loan size while other independent variables are the same.

In model 6, the coefficient of the loan size variable is positive and significant; indicating that loan size positively affects women's satisfaction. In model 5 the coefficient of the microfinance involvement dummy variable is positive and significant, indicating that women who were involved with microfinance had more satisfaction compare to those who were not. The coefficient of women empowerment is also significant in both models 5 and 6.

In both models 5 and 6, the coefficient of age is negatively significant while the coefficient of education is not significant. The coefficient of family size is significantly related to women's satisfaction in both models 5 and 6. The income variable is not significant in model 5 and 6. The coefficient of marital status is significantly and negatively related to women's satisfaction in both models 5 and 6. Hence, we can conclude that the results of model 5 are consistent with the result of model 6.

4.6 Summary of the Findings

Models 1 and 2 shows the economic decision making empowerment of women while model 3 and 4 show freedom of movement empowerment and finally model 5 and 6 show women's satisfaction. The difference between the models is that we include microfinance involvement (MFI) dummy variable in model 1, 3 and 5 while in model 2, 4 and 6 instead of microfinance involvement; we include loan size while other independent variables are the same.

In model 2, model 4 and model 6, the coefficient of the loan size variable is positive and significant indicating that loan size positively affects women's economic decision making, freedom of movement and women's satisfaction, respectively. In model 1, model 3 and model 5, the coefficient of the microfinance involvement dummy variable is positive and significant indicating that women with microfinance have more ability in economic decision, freedom of movement and women's satisfaction, respectively, compare to those without microfinance involvement. The women empowerment is significant in both model 5 and model 6 indicating that women with empowerment have more satisfaction.

In model 1, model 2, model 3 and model 4, the coefficient of age, education, family size and annual income is significant and is positively related to economic decision making and freedom of movement, respectively. The marital status is not significant in both model 1 and model 2. Hence, it can be concluded that the results of model 1 are consistent with the results of model 2. The marital status is significant in model 3 and model 4. Hence, we can conclude that the results of model 3 are consistent with the results of model 4.

In both model 5 and model 6, the coefficient of age is negatively significant. The coefficient of education is not significant. The coefficient of family size is significantly related to women's satisfaction in both models 5 and 6. The income variable is not significant in both models 5 and 6. In both these models, the coefficient

of marital status is significantly and negatively related to women's satisfaction in both models 5 and 6. Hence, we can conclude that the results of model 5 are consistent with the result of model 6.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of the Thesis

This study is aimed at examining the impact of microfinance on women's empowerment and happiness in Bahawalpur Division, Punjab, Pakistan. This thesis is divided into five chapters. The first chapter discusses the background of the study, problem statement, research questions, specific objectives and significance of the study. The problem statement indicates two issues (women's low empowerment and dissatisfaction to life), problems (lack of finance and education) and finally discusses the research gaps.

Chapter two synthesizes a broad review of previous literature pertaining to the impact of microfinance on women's empowerment and happiness. The literature review explains the concept of women's empowerment and happiness, theories on women's empowerment and happiness, the commonly used dimensions of women's empowerment and paradigm of microfinance institution towards women's empowerment, methods of measurement of women's empowerment and happiness, literature on the impact of microfinance on women's empowerment and happiness, other factors affecting women's empowerment and happiness and finally gaps in the literature.

Chapter three comprises of research methodology, empirical model, and study approach, measurement of variables, survey instrument, and data collection procedure. Chapter four analyzed the results of the survey and the econometric estimation of the empowerment and happiness model. A first, descriptive analysis of the survey sample is presented. Then, discussion is focused on the results of estimation of the multinomial logit and probit model of women's empowerment and happiness.

In the economic decision making empowerment model the coefficient of the loan size (Lsize) variable is positive and significant at 1 percent indicating that loan size positively affects women's economic decision making. In the economic decision making empowerment model, the coefficient of the microfinance involvement dummy variable is positive and significant at 1 percent indicating that women with microfinance have more ability in economic decision making as compared to those without microfinance involvement. In economic decision making empowerment model the coefficient of age (age), education (edu), family size (Fsize) and income (Inc) are positive and significant indicating that these are positively related to economic decision making. The coefficient of the interaction term between education and microfinance is not significant, indicating that the effect of microfinance and education on women's economic decision making does not depend on level of education. However; marital status (MS) is not significant with economic decision making empowerment.

In the freedom of movement empowerment model, the coefficient of loan size (Lsize) variable is positive and significant. The coefficient of microfinance involvement is significant. The coefficient of education (edu) is also significant and positive indicating that educated women have more freedom of movement empowerment. The coefficient of the interaction term between education and microfinance is also not significant, indicating that the effect of microfinance and education on freedom of movement empowerment does not depend on level of education. The coefficient of age (Age), family size (Fsize) and income (Inc) are significant and positive indicating that the variables are positively related to women's freedom of movement. The coefficient of marital status is also significant and positive indicating that married women have more freedom of movement empowerment.

The coefficient of the loan size (Lsize) variable is positive and significant indicating that loan size positively affects women's satisfaction. The coefficient of the microfinance involvement (MFI) dummy variable is positive and significant indicating that women who are invoved with microfinance have more satisfaction compared to those without microfinance involvement. In the satisfaction model, the coefficient of age (age) is negatively significant while the coefficient of education (edu) is not significant. The coefficient of family size (Fsize) is significantly and positively related to women's satisfaction. The income (Inc) variable is not significant in affecting satisfaction. The coefficient of marital status (MS) is significant and negatively related to women's satisfaction.

5.2 Contributions of the Study

This study has provided some contribution to the whole body of research in the field of microfinance sector and to the literature by providing findings on the factors that have impact on the borrowers, particularly in Pakistan. Simultaneously, the study is also contributing to the women development sector by providing suggestions and implications on the basis of findings. Some recommendations that can be taken into consideration by these microfinance institutions, government and NGOs which would in turn contribute to a microfinance institution development and women development and eventually to improving the policy on the basis of the findings of this study. The following sections address the contribution to the literature and practical contribution.

5.2.1 Contribution to the Literature

Asim (2009), Mmtaz (2007) and Shareef *et al. (*2012) denote that in Pakistan, majority of women are not allowed to make decision on economic level. Gazdar (2005), Pasha and Palanivel (2003) and Sathar and Kazi (1997) drew conclusion that women's freedom of movement is restricted. According to previous studies in Pakistan economic decision making and freedom of movement are the main issues but there are few studies on the said two issues. This study contributes by examining the women's economic decision making and freedom of movement in Pakistan. Ali and Haq (2006) refer that future researchers should explore more dimensions and study on women's life satisfaction. So, this study contributes to the literature by responding to the recommendations.

Furthermore, Pakistan has the second highest gender gap rates in the world regarding school enrollment. The male enrollment is supported by parents and society while females have less education than men (Nasir, 2002). This study contributes by examining the impact of empowerment and education on women's satisfaction which is recommended by Ali Haq (2006).

Moreover, majority of women showed dissatisfaction with their lives and voted to have loans to commence their own business (Khan, 2007). Shabbir and Gregorio (1996) found that in Pakistan, freedom seekers were mostly women who had dissatisfaction in their paid work and wanted to start their own business but most of the women faced the financial barriers. Microfinance is a kind of the finance that helps women by involving them in small business. Hence, this study contributes to literature by examining the impact of microfinance involvement and loan size on women's life satisfaction in Pakistan.

Furthermore, since educated women have more freedom, as they can read and write and have awareness about various aspects of life than uneducated women. So, they can utilize the finance in business in a better way and this will be resulted in their increased empowerment and satisfaction to their lives (Yasmeen and Kareem, 2014). This study contributes to literature so far that this is the first empirical research that has established the interaction term between microfinance involvement and education to observe its impact on women's satisfaction and empowerment. The study also

examines the impact of interaction term (between loan size and education) to consider its impact on satisfaction and empowerment.

Additionally, in context of measuring happiness, economists say that the question should express in the recent days to measure happiness, like “taken all together, how you would say things are these days” (Oswald, 2012). Bertrand and Mullainathan (2001) elaborate that individuals may exaggerate their happiness level keeping in mind the end goal to keep up their self-regard over the questioner, whilst situational factors, for example, mind-set and climate may influence their reactions at the time of the study in this way, pose the question, "Now a day are you". However, even if a researcher uses good model to estimate the effect, but does not measure the satisfaction to life in real time, it can produce dubious findings that can lead towards wrong direction. There are few studies that measure the satisfaction in real time. This study contributes by measuring satisfaction to life in real time.

5.2.2 Practical Contribution

According to Gender Development Index (GDI), Pakistan has been noted to be the poorest (0.179) among South Asian Countries where the average index is 0.226 (MHHDC, 2005). According to UNDP report of 2007-08, the HDI for Pakistan is 0.551, which ranks Pakistan on 136th out of 177 countries (Chaudhry and Nosheen, 2009). Shabbir and Gregorio (1996) stated that women play vital role in development of society and country. However, most of the research is done on the women in west,

Ali and Haq (2006) stated that Pakistani society differs from other societies, particularly from the western society and hence the concept of 'autonomy' in bringing about 'happiness' in the lives of Pakistani women yields different effects than in other societies. So, this study contributes by conducting the research on women in Pakistan.

From 63 years, various political governments of Pakistan had taken some steps towards women empowerment but it is utilized by very small proportion of urban women and rural women are still livings in a miserable condition. Women are the important; studies should be conducted on them (Shareef *et al*, 2012). So, this study contributes by conducting research on women in Pakistan.

Furthermore, this study found that the women who are older, educated, have income and larger loan size will increase empowerment and satisfaction. The microfinance institutions and NGOs can revise their policies on the basis of the findings of this study which ultimately will improve their performance and these institutions can help the government in women's development and poverty reduction programs. It has been mentioned earlier that an effective microfinance institution confers better services to people and bring more stability and robustness to the country. This would in turn positively influence the development of the country's economy. Policy makers in Pakistan can pay a profound attention towards the development of women and development of microfinance institutions through looking at the variables and factors involved that influence women's empowerment and happiness.

5.3 Implications and Recommendation

The study addresses the Implications and Recommendation on theoretical, methodological and practical aspect as follows:

5.3.1 Theoretical Implications and Recommendation

The current study done on the impact of microfinance on women's empowerment has mixed opinions. Some studies show that microcredit has significant impact on women's satisfaction levels (Bandyopadhyay *et al;* 2011; Chowdhury, 2008; Hasherni *et al.*, 1996; Noreen, 2011; Parveen, 2007; Rehman and Khan, 2007) while a few studies found that microfinance has no significant effect on the women's empowerment (Asim, 2008; Ali and Hatta, 2012; Farooq, 2009). This study adds to positive side by finding positive and significant impact of microfinance and loan size on women's empowerment. The present study should be considered latest study of 2015, using the robust tool of analyses. The theoretical implication is that microfinance contributes positively to women's empowerment in Pakistan. This supports the theory on gender and development and previous studies that yielded the same result. It should therefore, be noted that the positive relationship still exist between microfinance and women's empowerment.

In the reference of literature/theoretical implication, present study has added the variable of women's empowerment that has strengthened the results of this study. It is

also expected that this research will prove as a guide for further studies including the evaluation of the relationship between empowerment and happiness.

Furthermore, the study reveals a positive impact of microfinance on women's happiness. These findings advocate the theory of adoption, which demonstrates that income increases satisfaction on temporary basis, microfinance is a kind of money which involves borrowers in small business and enables them to have money through doing businesses. So, having income raises up their happiness. This result fortifies the previous findings such as; Bandyopadhyay (2011) and Becchetti (2009).

5.3.2 Practical Implications and Recommendation

Based on the findings of the study, this study recommends to government, MFIs and NGO stakeholders to encourage poor women to participate in microcredit and educated, older women who have big family size should be given large amount of loan so that they can get involve in more profitable businesses. In context of implication, government and its agencies will have stronger basis for promoting education program among females upon which to rely empowerment programs.

On the basis of findings, it can be concluded that the level of women empowerment and satisfaction of poor women in Pakistan is significantly influenced by involvement with MFI, age, family size, income and loan size. Results also reveal that education has positive impact on women empowerment. Gregorio (1996) denotes that poor and unemployed women in Pakistan want loans to commence their own business.

Economic Survey (2014) reported that spending on men's literacy is more than female literacy. Women in Pakistan are looking for opportunities to get education and finance. They want government to allocate funds for them. Imran (2015) expresses that equal access of men and women to development program is essential for national development and progress and government fails to produce data on budget spending for women because of political issues. Furthermore, the resources are very limited and division of the available resources is not allotted on equal basis but still government has tendency to manage and spend more budgets on women's development by decreasing expenditures from other sectors like government spending on politicians' protocol can be minimized and shift in women's development. There is need of serious consideration by the government to review budget policy and spend more money on women's development.

On the basis of findings, present study recommends that government, MFIs and NGO stakeholders should increase their spending on women empowerment and happiness programs and their education. While making policies and allocating the budget on education, Government, UN and other nongovernmental organizations should think of how these expenditures are distributed and who is benefiting from these expenditures. To create balance between rural and urban females the government should tailor more of the education support to the rural females in order to facilitate wider spread of education among women in Pakistan.

Findings of this study also prove that women's empowerment is positively resulted in woman's satisfaction. Thus, taking steps in increasing women's empowerment will ultimately enhance their satisfaction. The government and agencies will have stronger foundations of promoting women empowerment upon which to launch happiness programs. This study recommends that organizations should make policies and strategies to promote women's empowerment programs to boost up women's happiness.

5.4 Limitations of the Study and Future Recommendations

No research work is final and decisive. Likewise this study has also some certain limitations and this study is not an exception. The future recommendations are based on the limitations of the present study. In present study, data is collected from Bahawalpur division only not from the whole of Pakistan because of financial constraints and time limitations. Future studies can take samples of respondents from whole of Pakistan. This study is based on cross-sectional data and results might be different if in the future researchers employ longitudinal data. Perception measures of empowerment and satisfaction are subjective in nature and objective measures can be used in future researches. This study observed the positive impact of borrowers' empowerment on their satisfaction to life; future researchers can examine the mediating and moderating role of women's empowerment between finance and happiness.

This study was based on the microfinance institutions while the future researches can prefer to select the government, non-government agencies and international agencies that financially support women to involve them in economic activities and to investigate the impact of finance on women's empowerment and happiness.

5.5 Conclusion

The empowerment of women is one of the central issues in the process of development of all developing countries in the world. This study investigated the empowerment and satisfaction of poor women who participated in microfinance (National Rural Support Program and Khushali Bank) in Pakistan. To achieve the objective, household level data were collected from 744 poor women in 3 districts of Bahawalpur division in Pakistan. The results of the multinomial logit model estimation show that the women borrowers are more empowered and satisfied than women non borrowers. In addition, loan size has a significant impact on economic decision making, freedom of movement and satisfaction. The coefficient of age, education, family size and annual income are positively related to economic decision making and freedom of movement empowerment. Marital status does not significantly effect economic decision making empowerment, but it is positively affected to freedom of movement empowerment. Age and marital status negatively affect satisfaction. Family size and women's empowerment positively affect women's satisfaction. The results are robust to different estimation method. Based on the results of the study it can be concluded that the level of women empowerment and

satisfaction of poor women in Pakistan can be significantly improved by involving with MFI. Higher income increases women's ability to contribute more to the daily household expenditure, and eventually improves their empowerment and satisfaction. It is recommended that the government and other development organizations should work together in addressing this empowerment issue with a better implementation of strategies such as providing more funds for microfinance. All these strategies can influence the level of empowerment of women in a developing country.

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