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The mediating role of micro-entrepreneurship between microfinance and poverty alleviation: Entrepreneurial training as moderator

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Abstract
Purpose: This paper aims to evaluate the impact of microfinance on the alleviation of poverty. The paper also tests the mediating role of micro-entrepreneurship and the moderating role of entrepreneurial training in the microfinance and poverty alleviation relationship.
Design/Methodology/Approach: The research is based on the cross-sectional data collected from 400 beneficiaries of the National Rural Livelihood Mission (NRLM) Scheme through a pre-tested questionnaire. The data was analyzed by using regression analysis, ANOVA, and t-test. The mediation and moderation analysis was done using PROCESS macro developed by Andrew Hayes.
Findings: The results suggest that access to microfinance has enhanced beneficiaries' living standards and health, whereas the education of the children of beneficiaries has been negatively impacted. The results also revealed a mediation role of micro-entrepreneurship and a moderation role of entrepreneurial training in the relationship between microfinance and poverty alleviation.
Research Limitations/Implications: The study is based on cross-sectional data and can be replaced by a longitudinal research design. Moreover, this study focused only on the experimental group, thus, ignoring the control group. Further research could be done focusing on both experimental and control groups.
Practical Implications: The findings from the study apprise the decision-makers and the microfinance proponents about the significance of micro-entrepreneurship and entrepreneurial training in enhancing the impact of microfinance among the deprived sections of society, particularly in rural India.
Originality/Value: This paper is the first to check the mediating role of micro-entrepreneurship and the moderating effect of entrepreneurial training in the microfinance and poverty alleviation relationship.

Keywords: Microfinance, poverty alleviation, micro-entrepreneurship, entrepreneurial training, moderation, and mediation

1. Introduction

Regardless of the massive movement for financial inclusion of the deprived populace, financial services are still not accessible to most people (Gounasegaran, Kuriakose, & Iyer, 2013) [48]. One possible reason may be that these poor people are hard to service profitably. One of the prime impediments to financial inclusion in financial literacy is that the stakeholders cannot grasp the benefits and threats (Sofi & Zamir, 2019) [41]. Due to high transaction costs and the lack of security, conventional banks are not ready to address the financial needs of poor people (Hermes & Lensink, 2007) [19]. This compels the poor and destitute to fall prey to the moneylenders that exploit their cripple condition (Bhaduri, 2019) [9]. Microfinance asserts to offer a solution to the problems of the imperfections prevalent in the credit markets, particularly the problem of overcoming information asymmetries (Morduch, Pitt, & Robinson, 1999) [30]. The fundamental assumption of microfinance is that the borrower is the only driver of a sole revenue-generating activity, the yield of which is restrained either by the high marginal cost of credit as compared to its marginal revenues or by the scarcity of capital (Duvendack *et al*., 2011) [12]. Reduction in the investment restraint enhances the welfare of the operators by increasing the production, net revenue, and profits (De Mel, McKenzie, & Woodruff, 2008) [11].
Ravallion (1992) [47] presumes that poverty exists when people fail to get the most

noteworthy status and social affirmation, given the unavailability of advantages that become a purpose behind income-generating activities. Microfinance ought to be included in financial strategy and demonstrated because it has appeared to improve the financial prosperity of the poor and low-income individuals, particularly women. It also assumes a vital job in employment for women, particularly those with low education (Elhadidi, 2018) [13]. Microfinance vitally decreases the extent of the populace living beneath the poverty line and the profundity of poverty (Lacalle-Calderon, Perez-Trujillo, & Neira, 2018) [24]. Microfinance positively impacts poverty reduction, increment pay level, and education and builds up the expectation for everyday comforts of poor people (Usman, 2015) [44]. Microfinance positively impacts business creation, investment, and profits. It is investigated that microfinance factors (i.e., micro-credit and micro-training) positively correlate with micro-enterprise success. However, among all other microfinance factors (i.e., micro-saving, microinsurance, social capital), micro-credit and micro-training have a relatively higher effect on microenterprise performance than a level of education (Hameed, Hussin, Azeem, Arif, & Basheer, 2017) [17]. Microfinance users primarily concentrate on expanding existing business and consumption expenditure rather than taking the extra risk to usher in searching, planning, and bricolage for a new venture (Dutta & Banerjee, 2018) [4].

Although there is extensive literature available on the subject of microfinance both in India and in other developing economies of the world, there is still no harmony and uniformity in the literature on its impact on the poverty of its beneficiaries. The available literature is divided into the effect of microfinance on the status of the beneficiaries. Moreover, there is a dearth of studies in the Kashmir valley because of the prevalent political turmoil since the 1990s. Jammu and Kashmir is a Muslim majority state under the administration of India. The Kashmir strife is a regional clash over the Kashmir territory (part of Jammu and Kashmir state), fundamentally between India and Pakistan. Since 1989, Kashmiri dissent movements were created to voice the disputes and grievances of Kashmir with the Indian government in the Indian-controlled Kashmir Valley, with some Kashmiri separatists in an armed clash with the Indian government reliant on the demand for self-determination (Iqbal, Hossain, & Mathur, 2014) [21]. Therefore, the province of Jammu and Kashmir has not gained much consideration from researchers, and it is in this backdrop that the present study has been carried out to empirically examine the impact of microfinance on poverty alleviation in the Kashmir valley with the following objectives:

1. To analyze the impact of microfinance on poverty alleviation of beneficiaries of the NRLM Scheme in Kashmir valley.
2. To evaluate the mediating effect of micro-entrepreneurship on the relationship between microfinance and poverty alleviation.
3. To evaluate the moderating effect of entrepreneurial training on the microfinance and poverty alleviation relationship.

The overall objective of the present study is to investigate the microfinance effect on poverty alleviation using micro-entrepreneurship as a mediating variable and entrepreneurial training as a moderating variable. The rest of this paper is structured as follows. Section 2 provides a review of related literature. Section 3 gives a detailed description of the methodology used. Section 4 presents the empirical results and a discussion of the main findings. Section 5 highlights the contribution of the study. Finally, section 6 elucidates the conclusion and recommendations of the study.

2. Literature review

2.1 Microfinance and poverty alleviation

Khaki & Sangmi (2017) [23] investigated the impact of accessibility of finance on poverty alleviation, using the SGSY program as a case study. They found that if finance is accessible to people with no opinionated agenda, poverty and vulnerability can be drastically condensed, encouraging more extensive and consistent economic development. Sayvaya & Kyophilavong (2015) [39] concluded that microfinance programs least impact poverty eradication. Microfinance may affirmatively contribute to eradicating poverty, provided the challenges faced by microfinance programs are mitigated. The challenges include illiteracy due to poor education, necessary unfavorable infrastructure, and unsound financial infrastructure (Ali, 2017) [3].

Microfinance is, no doubt, a globally well-accepted tool to create entrepreneurial opportunities for the poor people, thereby reducing their poverty level, but, at the same time, it has also increased the level of indebtedness amongst the poor and vulnerable people by intensifying their social, ecological and financial vulnerabilities (S. B. Banerjee & Jackson, 2017) [5]. Microfinance is not that influential and effective in reducing extreme poverty. It eradicates the poverty of those at the edge of the poverty line based on the labor market and infrastructural measures associated with both groups of people (Mosley, 2001) [31]. Microfinance is intended to operate within the traditional capitalist setup with no ground-breaking and innovative objectives. It focuses only on the rural poor while neglecting the poor people in urban areas. The policies should be framed precisely to deal with urban poverty, as the urban poor are eventually the most susceptible (Bashar & Rashid, 2012) [7]. The microfinance and poverty alleviation relationship shows mixed results, which need further exploration.

H1. Microfinance significantly impacts the poverty alleviation of the microfinance scheme beneficiaries.

2.1.1 Microfinance and health

Although microfinance is a successful and effective strategy to curb health issues, there is still a considerable gap in our understanding. Collier *et al*. (2014) [10] suggested that women participating in microfinance operations engage in healthy practices and are likely to acknowledge awareness of family planning. There has been a massive enhancement in health issues at the community level with the help of facilities provided by microfinance institutions (Posso & Athukorala, 2018) [35]. Mortality rates (infant and under-five mortality) are significantly associated with the increment in microfinance clients in a particular country. Microfinance-based SHGs play a constructive role in enhancing child and maternal health and suggest a method to deal with the health-related issues of low-income families, especially women (Saha, 2017) [38]. The role of microfinance programs in improving women's health needs to be further explored

(Omalley & Burke, 2017) [33].

H1.1. Microfinance significantly impacts the health of the microfinance scheme beneficiaries.

2.1.2 Microfinance and children's education

The first investment that the poor people make out of net earnings is to invest in the education of their children, which creates a propensity for them to stay longer in the school(Littlefield, Morduch, & Hashemi, 2003) [26]. The education of children has been drastically affected by Microfinance. Still, the effect is robust and significant only when participants' living standards are relatively higher and children live at a relatively higher distance from school (Becchetti & Conzo, 2014) [8]. The effect of microfinance on children's education depends upon the time clients are associated with microfinance (Qamar, Masood, & Nasir, 2017) [36]. Initiatives taken by microfinance agencies can be a feasible approach to further the empowerment of children and the growth of resources and necessary skills to deal with the hardships (Skovdal, 2010) [40]. Thai (2018) [43] suggests that access to credit does not affect child schooling. However, if the instrumental variable method is incorporated, the study's outcome shows a negative and considerable consequence of credit on the child's school dropout rate.

H1.2. Microfinance significantly impacts the children's education of the microfinance scheme beneficiaries.

2.1.3 Microfinance and standard of living

Microfinance has led to better accessibility of beneficiaries to fundamental privileges. It has enhanced the living standards regarding food insecurity reduction, better nourishment, improved healthcare, clothing, education amenities, drinking water, and sanitation. The enhancement was more noticeable when microfinance funds were provided by non-government organizations rather than government organizations over a stipulated period (Mazumder & Lu, 2015) [28]. Financial inclusion influences the positive change in the welfare conditions of MFI clients (Harelimana, 2016) [18]. Microfinance programs have positively influenced beneficiary households in numerous ways, including healthcare, clothing, household income, and specific dwelling characteristics such as quality of walls and roofs, drainage and sanitation system (Ghalib, Malki, & Imai, 2015) [16].

H1.3. Microfinance significantly impacts the living standard of the microfinance scheme beneficiaries.

2.2 Microfinance and micro-entrepreneurship

Micro-entrepreneurship refers to a small business employing not more than ten people and is financed by micro-credit. Micro-entrepreneurship is increasingly recognized as one of the essential poverty alleviation methods and revenue generation in emerging economies. It reduces the load on government agencies to create employment opportunities and encourages self-reliance among the beneficiaries with the available minimal resources. Microfinance is gradually becoming more and more booming in plummeting poverty and increasing the income of women entrepreneurs (Mahmood, Hussain, & Matlay, 2014) [27]. It also develops the entrepreneurial characteristics amongst women entrepreneurs. Ferdousi (2015) [14] attempts to evaluate the efficacy of microfinance loans on mounting an entrepreneur's income and novelty and concludes that larger loans increase the income of the entrepreneurs. To assist women entrepreneurs in comprehending their complete potential and to get them out of poverty, accessibility to financing is essential. Access to finance and financial awareness significantly impacts the expansion of SMEs in emerging economies (Okello, Ntayi, Munene, & Malinga, 2017) [32]. The endurance of micro-entrepreneurs and the efficiency of micro-entrepreneurship are, to a large extent, enhanced by the non-financial services provided by the microfinance banks (Afolabi, 2016) [1]. The microfinance SHGs positively influence the income generation and employment opportunities created by diverse socio-economic groups. Microfinance programs help women beneficiaries substantially increase their income and raise their family earnings. This empowers women economically and helps them take part in the decision-making of the family (Lavoori & Paramanik, 2014) [26]. Microfinance does enhance the abilities of the borrowers to invest in a business. Still, the potential of micro-entrepreneurship as a means of women's empowerment and as a source of revenue has been overvalued by the microfinance proponents.

H2. Micro-entrepreneurship mediates the relationship between microfinance and poverty alleviation.

2.3 Microfinance and entrepreneurial training

Entrepreneurial training refers to those training programs designed to help those wanting to start a new venture or grow an existing business. Entrepreneurial training can enhance the performance of microenterprises and increase the success, perception, and motivation of entrepreneurs (Quan V.Le, 2015) [37]. Women entrepreneurs need the training to assist in growing their business and managing their finances, sales, and administering their business in general. Although the larger loans increase the income of the entrepreneurs, the traditional and outdated business practices might affect such income. Therefore, Entrepreneurs need to learn innovative business practices and loans provided to the micro-entrepreneurs to ensure that loans are being utilized effectively (Ferdousi, 2015) [14]. Training has no significant impact on women's empowerment; however, it improves the goal-setting skills of the women beneficiaries (Huis, Hansen, Otten, & Lensink, 2019) [20]. Fiala (2018) [15] suggests that neither training nor form of capital affects enterprises owned by women. However, it does affect the sales and profits of enterprises owned by men. Women entrepreneurs need the supervision of their businesses and the payment of credits to avoid default (Kaka & Abidin, 2014) [22]. After providing the micro-training to the owners or managers of microenterprises, micro-credit can be more beneficial for micro-enterprise success (Hameed *et al*., 2017) [17]. Client monitoring by entrepreneurial trainers, irrespective of the clients' gender or business skills, improves the loan repayment rates. In contrast, training does not show any improvement (Agbeko, Blok, Omta, & Van der Velde, 2017) [2]. Microfinance banks must support their customers by training them on the effective utilization of credit (Afolabi, 2016) [1].

H3. Entrepreneurial training moderates the relationship between microfinance and poverty alleviation.

3. Research Methodology

3.1 Database and sampling design

A well-structured Five Point Likert scale questionnaire has been used to collect the data. Apart from the questionnaire, detailed informal discussions were held with the beneficiaries of the NRLM scheme to collect the required data. The NRLM scheme was launched by the Government of India in Jammu and Kashmir in June 2013 to empower the women of the state. The Jammu and Kashmir State Rural Livelihood Mission (JKSRLM) is a Central Government-sponsored scheme to encourage women to be self-dependant and self-supporting. The basic idea behind this scheme is to organize poor women into SHGs and make them capable of self-employment. The mission's primary purpose is to eradicate poverty by empowering poor households to avail themselves of different employment opportunities. The data for the study were collected from the 400 SHG members using a two-stage mixed sampling method. Table I (https://drive.google.com/file/d/1q43eginaqSXw6gJ2E4anRlSX82S_PNKP/view?usp=sharing) shows the seven districts chosen as per convenience at the first stage. In the second stage, the purposive sampling method was employed in which the 18 blocks, as shown in Table I (https://drive.google.com/file/d/1q43eginaqSXw6gJ2E4anRlSX82S_PNKP/view?usp=sharing) from the selected districts, were finalized by the district heads of the scheme based on the number of the SHGs and the duration of the scheme.

The sample size of 400 was determined using the formula Yamane (1967) gave. With a population equal to 384,445 (approx.), the sample size was 400 at a 95% level of confidence. NRLM SHGs were the unit of analysis, whereas the SHG members were the unit of inquiry. A 100% response rate was realized in the study during the fieldwork.

3.2 Instrument design and scale of measurement

In order to collect the information from microfinance beneficiaries, a pre-tested questionnaire was used. The five dimensions of microfinance were used: cost, awareness, satisfaction, convenience, and self-confidence. These dimensions were taken from the available literature on microfinance. Besides, poverty alleviation was measured using the dimensions of health, education of children, and standard of living, taken from the Multi-Dimensional Poverty Index (MPI) developed by Oxford Poverty and Human Development Initiative in 2010 and modified in 2018. Furthermore, the micro-entrepreneurship and entrepreneurial training were taken as single dimensions with 5 items. The questionnaire items were measured on a 5-point scale, with 1 representing strongly disagree, 2-disagree, 3-neutral, 4-agree, and 5 representing strongly agree. The results show that microfinance, Poverty alleviation, micro-entrepreneurship, and entrepreneurial training had Cronbach alpha of 0.619, 0.784, 0.541, and 0.585.

The data collected from the field in a raw form was recorded in MS Excel and then transferred to SPSS, PROCESS macro, and Stata software. In order to check the divergent and convergent validity among the items under all constructs, EFA was done on all variables of the study, as shown in Table II, III, IV, & V (https://drive.google.com/file/d/1q43eginaqSXw6gJ2E4anRlSX82S_PNKP/view?usp=sharing).

3.3 Regression Models

Six regression models have been formulated to test the hypotheses. Models 1, 2, 3, and 4 measure the impact of Microfinance (MF) on the overall poverty alleviation (PA) and its dimensions (Health, Childen's Education, and Living Standard).

- **Model 1:** $PA_{it} = \alpha + \beta_1 MF_{it} + \varepsilon_{it}$
- **Model 2:** $H_{it} = \alpha + \beta_1 MF_{it} + \varepsilon_{it}$
- **Model 3:** $CE_{it} = \alpha + \beta_1 MF_{it} + \varepsilon_{it}$
- **Model4:** $LS_{it} = \alpha + \beta_1 MF_{it} + \varepsilon_{it}$

The Baron and Kenny (1986) [6] method is an analysis strategy for testing mediation hypotheses. Under this method, mediation is tested through four regressions – independent variable predicting the dependent variable, independent variable predicting the mediator, mediator predicting the dependent variable while controlling the independent variable, and independent variable predicting the dependent variable while controlling the mediator. The four regression models to test the mediation hypothesis are as below:

- **Model 5.1:** $PA_{it} = \alpha + \beta_1 MF_{it} + \varepsilon_{it}$
- **Model 5.2:** $ME_{it} = \alpha + \beta_1 MF_{it} + \varepsilon_{it}$
- **Model 5.3:** $PA_{it} = \alpha + \beta_1 ME_{it} + \beta_2 MF_{it} + \varepsilon_{it}$
- **Model 5.4:** $PA_{it} = \alpha + \beta_1 MF_{it} + \beta_2 ME_{it} + \varepsilon_{it}$

An additional term is added to the model while regressing dependent variable Y on the independent variable to measure the moderating effect. This additional term is the interaction between independent and moderating variables. Model 6 is used to test the moderating hypothesis.

Model 6: $PA_{it} = \alpha + \beta_1 MF_{it} + \beta_2 ET_{it} + \beta_3 (MF \; x \; ET)_{it} + \varepsilon_{it}$

(In the above models, MF is microfinance, PA is Poverty Alleviation, H is Health, CE is Children's Education, LS is Living standard, ME is Micro-Entrepreneurship, and ET is Entrepreneurial Training).

3.4 Tools of analysis

The data have been categorized, arranged, and edited logically. Tabulation of the data has been done manually and using SPSS 24.0 and MS-Excel. To assess the effect of microfinance on poverty alleviation, regression analysis, t-test, and ANOVA have been used. Baron and Kenny's procedure has been employed for mediation and moderation analysis, and analysis has been done on PROCESS macro developed by Andrew Hayes.

4. Results and Discussions

4.1 Demographic Characteristics

The detailed demographic results are shown in Table VI (https://drive.google.com/file/d/1q43eginaqSXw6gJ2E4anRlSX82S_PNKP/view?usp=sharing). The key takeaways from the results are that most beneficiaries are self-employed, illiterate, married, and 21-30 years of age.

4.2 Regression Analysis

4.2.1 Diagnostic Tests

The authors inspected the multicollinearity issue in the data using the Variance Inflation Factor (VIF). The authors

observed no issue of multicollinearity in the data as the value of VIF is underneath the threshold level of 10. Gujarati and Porter (2010) [46] state that VIF over the value of 10 has the issue of multicollinearity in the data. Furthermore, the Breusch-Pagan test was performed to analyze the issue of heteroskedasticity, while the Durbin-Watson test inspected the autocorrelation issue. The results of these two tests are presented, showing that the p-values of the Breusch-Pagan test are insignificant and Durbin-Watson values lie between 1 and 3, demonstrating the absence of heteroskedasticity and autocorrelation amongst the residuals (Untabulated).

4.2.2 Endogeneity Tests

We also perform tests of endogeneity to show that microfinance is indeed endogenous and needs to be addressed. We also prove the relevance and validity of the instruments in addressing the endogeneity of microfinance. The Durbin Wu Hauman tests of endogeneity show significant statistics in all four models (p-values = 0.0000), rejecting the null hypothesis that the specified independent variable (microfinance) is exogenous. Thus, endogenous microfinance needs to be addressed to yield unbiased estimates. Second, in all specifications, the Sargan and Basmann test of over-identification shows insignificant statistics (p-values >0.10), implying that we cannot reject the null hypothesis that the instruments are valid or that they are uncorrelated with the error term. As such, the Sargan and Basmann test confirms the validity of our instruments in correcting for endogeneity (Phan and Archer, 2020) [20]. Last, the significant Cragg–Donald Wald F-statistics suggest rejecting the null hypothesis that the instruments are correlated with the endogenous variable but only weakly. In other words, the Cragg–Donald test of weak identification test confirms the adequate power of our instruments in addressing endogeneity.

4.2.3 Regression Results

4.2.3.1 Microfinance and poverty alleviation

The basic objective of the study is to assess the impact of microfinance on poverty alleviation in the Kashmir valley of Jammu and Kashmir State of India. Overall, poverty alleviation was predicted based on microfinance by employing linear regression. The regression equation was found to be statistically significant ($F=14.124$, $p<0.000$, and $R^2=0.034$). The results indicate that microfinance is a significant predictor of poverty alleviation ($\beta=0.252$, $p=0.000$). This implies that microfinance positively and significantly impacts poverty alleviation. Thus the hypothesis (H1) related to the overall poverty was supported. Since poverty is a multi-faceted and multi-dimensional aspect and in the present study, three dimensions were taken: health, children's education, and living standards. Three separate regression models were run to assess the effect of microfinance on all these three dimensions separately, the results of which are discussed in the next sections.

4.2.3.2 Microfinance and heath

In order to check the impact of microfinance on health, linear regression analysis was employed. The regression equation was found statistically significant ($F=82.459$, $p<0.000$, $R^2=0.172$).The results indicate that microfinance is a significant predictor of health ($\beta=0.765$, $p=0.000$). This implies that health is positively and significantly impacted by microfinance. Thus the hypothesis (H1.1) related to health was supported.

4.2.3.3 Microfinance and children's education

The effect of microfinance on children's education was examined by running the linear regression model, which showed that the regression equation is significant ($F=77.092$, $p<0.000$), with an R^2 of 0.162. The results indicate that microfinance is a significant predictor of children's education ($\beta=-1.073$, $p=0.000$). This implies that microfinance has a negative but significant impact on children's education. Thus the hypothesis (H1.2) related to children's education was supported.

4.2.3.4 Microfinance and standard of living

The standard of living based on microfinance was predicted by employing linear regression. The regression equation was found statistically significant ($F=106.842$, $p<0.000$, $R^2=0.212$).The regression model results indicate that microfinance is a significant predictor of a standard of living ($\beta=1.063$, $p=0.000$). This implies that microfinance positively and significantly influences the standard of living. Thus the hypothesis (H1.3) related to the standard of living was supported.

4.2.3.5 Micro-entrepreneurship: a mediator between microfinance and poverty alleviation

Mediation analysis tests whether the effects of the predictor variable (X) on the outcome variable (Y) operate through a third mediating variable (M). Baron & Kenny (1986) [6] proposed a four-step process (discussed in section 3.3). The mediation analysis was done through the PROCESS macro software developed by Andrew F. Hayes. The results show that the mediating model is statistically fit ($F=157.89143$, $p=0.000$). R^2 is 0.405, which means 40 percent of the change in the dependent variable is due to the change in the mediating variable. The mediating hypothesis is supported if the lower limit confidence interval (LLCI) and upper limit confidence interval (ULCI) does not include zero. The mediation analysis results show that LLCI is -0.250 and ULCI is -0.110, which does not include zero and implies a mediating effect of micro-entrepreneurship on the relationship between microfinance and poverty alleviation. Thus our hypothesis of mediation (H2) is supported.

4.2.3.6 Entrepreneurial training: moderator between microfinance and poverty alleviation

Moderation analysis tests for the impact of a third variable (z) on the relationship between independent (X) and dependent (Y) variables. The moderating variable can either strengthen or weaken the relationship or even reverse the relationship's nature. The moderation hypothesis is supported if the interaction effect (independent and moderating variable) is statistically significant. The moderation analysis was also done through the PROCESS macro software developed by Andrew F. Hayes. The results show that the moderating model is statistically fit ($F=48.523$, $p=0.000$). R^2 is 0.392, which means 39 percent of the change in the outcome variable is due to the change in the moderating variable. The hypothesis of moderation is supported if the interaction coefficient is statistically

significant. The moderation analysis result shows that LLCI is 0.789 and ULCI is 1.278, including zero. The p-value is 0.000 (less than 0.05), implying that entrepreneurial training moderates the relationship between microfinance and poverty alleviation. Thus our hypothesis of moderation (H3) is supported.

5. Contribution to the study

The current paper has contributed to the knowledge of Microfinance and poverty alleviation in many ways. Firstly, it has added to the existing microfinance and poverty alleviation literature. According to the regression results, microfinance was found to have a significant and positive impact on poverty alleviation. However, the results of three separate regression models relating to three dimensions of poverty provided a better picture of the results. The three dimensions of poverty have been adopted from the Global Multi-Dimensional Poverty Index (MPI), a comprehensive and more accurate tool to measure poverty. MPI is a novel and ground-breaking index developed by Oxford Poverty and Human Development Initiative (OPHI) as an innovative global poverty measurement that focuses on several scarcities confronted by poor people related to health, education, and living standard.

Microfinance affects poverty alleviation through micro-entrepreneurship, and the training provided by microfinance agencies very much influences entrepreneurial activities. Therefore, in the present study, micro-entrepreneurship and entrepreneurial training are considered mediating and moderating variables. The regression results validate that micro-entrepreneurship mediates and entrepreneurial training moderates the relationship between microfinance and poverty alleviation. This implies that in framing the research model for investigating microfinance and poverty alleviation, these two variables need to be controlled or taken as the primary research parameters.

The study may also be helpful for the stakeholders such as researchers, policymakers, professionals, and all those associated with the microfinance industry to reappraise the current practices and provide basic guidelines for framing new policies in the dynamic economic environment.

6. Conclusion

The primary objective of the present study is to assess the effect of the NRLM microfinance program on alleviating poverty concerning health, children's education, and standard of living. Cross-sectional data were employed in the study, and the data were collected in 2019 from 400 SHG members in 7 districts of the rural areas of Kashmir valley in India. The study results reveal that the NRLM microfinance program significantly impacts health, living standards, and poverty alleviation. In the case of children's education, the impact is significant but negative. The negative effect of microfinance on children's education is confirmed by various past studies Thai, 2009; Karthin Hartmann *et al*., 2012 [43, 45] etc. The same may be that the money received from loans is often used for consumer goods and consumption instead of being used for productive investments like education. The results also found that the micro-entrepreneurship mediates the microfinance and poverty alleviation relationship. The results further show that entrepreneurial training moderates the impact of microfinance on poverty alleviation.

6.1 Managerial Implications

This study is vital because it has implications for Government, MFIs, NGOs, and other regulatory authorities. Based on the findings, the managerial implications are:

1. The results suggest that the government of India should promote these types of programs in order to take a more significant number of poor households into the ambit of financial inclusion. (2). Moreover, during the study, it was found that the beneficiaries are not satisfied with the loan amounts provided to them, which influences the scheme's effectiveness. Therefore, MFIs and other lending agencies should enhance the size of the loans.
2. The authorities should explore new areas related to micro-enterprises, and the information should be communicated to the women entrepreneurs. They should be provided with the necessary assistance for introducing such new ventures.
3. MFIs, NGOs NABARD must provide training and other Government organizations to encourage women beneficiaries in undertaking home industries like soap, detergent, candle making, preparation and marketing of food items, decorative home items, etc., of proper guidance.
4. In order to solve the different types of marketing problems faced by the women entrepreneurs, some arrangements like packaging, opening retail outlets, supplying raw materials through economic purchasing, operating processing units, maintaining common facility centers, publicity for the products, providing a platform for marketing, etc. must be taken at the District level.
5. SHGs, through Microfinance institutions, banks, or NGOs, should develop an association with agriculture, horticulture department, or dairy or poultry research centers to know the latest technology and skills to adopt in their activities, which will help increase their productivity.

6.2 Limitations of the Study

This paper also has some limitations. First, the study is based on cross-sectional data, which shows only the momentary impact and might not forecast the continuing effect, which could have been possible by taking panel data. Second, the study is conducted on the target group of microfinance SHG beneficiaries. The study results would have been much better if the control group of non-beneficiaries had been incorporated. Future research could take longitudinal data with advanced econometric tools.

Data Availability Statement

The data supporting this study's findings are available from the corresponding author upon reasonable request.

Tables

Table 1: Items used in Questionnaire with sources

Dimensions	Items	Sources
Cost	I am satisfied with the size of the monthly installments	Kaur, Jaskiran (2012), KC, Biju (2012), Subramanyam, N (2012), Khan, Tariq Mahmood (2010).
	I am satisfied with the loan disbursement fee	
	I am satisfied with the loan application fee	
	The rate of interest of microfinance is reasonable	
Awareness	The terms and conditions are explicit and clear	Nessa, Tasqurun (2011), Kaur, Jaskiran (2012), KC,Biju (2012), Subramanyam, N (2012), Khan, Tariq Mahmood (2010).
	I am fully aware of the necessary measures taken in case of loan default.	
	I am satisfied with the overall lending process	
	I have the complete knowledge of all the microfinance schemes available	
	There is a high frequency of loan repayment	
Satisfaction	I am satisfied with the behavior of employees during the lending process	Nessa, Tasqurun (2011), Kaur, Jaskiran (2012), KC, Biju (2012), Subramanyam, N (2012), Khan, Tariq Mahmood (2010).
	A microfinance institution requires no guarantee to approve a loan	
	I am satisfied with the duration of the loan	
	I am satisfied with the repayment schedule	
	The microfinance loans are offered without collateral	
	My respect has increased in society due to my Success gained through microfinance.	Nessa, Tasqurun (2011), Kaur, Jaskiran (2012), KC,Biju (2012), Subramanyam, N (2012), Khan, Tariq Mahmood (2010).
	I now feel more determined and more hopeful in family and society.	
	My attitude is now more positive toward life	
	My involvement in family decision-making has improved after availing microfinance.	
	My interest in social, economic, and political issues has positively increased.	
Convenience	I often face problems in getting a loan	Kaur, Jaskiran (2012), KC, Biju (2012), Subramanyam, N (2012), Khan, Tariq Mahmood (2010).
	The procedure of obtaining loans from microfinance institutions is more comfortable than conventional banks	
	The loan provider well entertains complaints	
	I am satisfied with the length of the meeting with the Loan Officer Staff	
	I have no issue with the frequency of meetings with the Loan Officer Staff	
Health	There has been no child mortality in the last five years	Naved & Islam (2010), Kaur, Jaskiran (2012), KC,Biju (2012), Subramanyam, N (2012), Khan, Tariq Mahmood (2010).
	No child in the family has been malnourished	
	I have better access to healthcare	
	The rate of morbidity has been decreased	
	There has been an increase in the nutritional status of the family	
Education	Microfinance has helped children to attend higher classes	Naved & Islam (2010), Kaur, Jaskiran (2012), KC,Biju (2012), Subramanyam, N (2012), Khan, Tariq Mahmood (2010).
	There has been an increase in spending on children's education	
	No one in the family is deprived of school education (up to 8th class)	
	All the household members have completed primary schooling (6 years)	
Standard of Living	Funds have been used for house repairing	Naved & Islam (2010), Kaur,Jaskiran (2012), KC,Biju (2012), Subramanyam, N (2012), Khan, Tariq Mahmood (2010).
	There has been an improvement in drinking water and sanitation	
	No asset was purchased after availing microfinance loan	
	There has been an increase in the transportation/assets of the family	
	The overall living standard of the family is increased.	
Micro-entrepreneurship	Entrepreneurial opportunities are now more after availing of loan	D'SOUZA, Supriya Albert (2011), Nessa, Tasqurun (2011), Kaur,Jaskiran (2012), KC,Biju (2012), Subramanyam, N (2012), Khan, Tariq Mahmood (2010).
	Microfinance leads to better women's employment	
	Microfinance encourages entrepreneurship among rural poor	
	Loans are used in consumption and not invested	
	Microfinance Promotes all kinds of business	
Entrepreneurial Training	Assistance received from MFI was helpful to run the business	D'SOUZA, Supriya Albert (2011), Nessa, Tasqurun (2011), Kaur, Jaskiran (2012), KC, Biju (2012), Subramanyam, N (2012), Khan, Tariq Mahmood (2010).
	MFI continuously monitors the impact of training on clients	
	MFI provides the participants with the necessary skills to start a new venture	
	Training made the maximum utilization of resources possible	
	Training provides know-how and support to participants who are willing to promote their own business	

Table 2: Sample Composition

Regions	District	Block	SHG Members	Total
Central Kashmir	Srinagar	Srinagar	90	90
	Ganderbal	Ganderbal	50	80
		Lar	20	
		Wakura	10	
	Budgam	Chadura	10	30
		Khan Sahib	13	
		Beerwah	7	
South Kashmir	Anantnag	Breng	19	51
		Shangus	11	
		K Pora	21	
	Pulwama	Pampore	22	40
		Awantipora	18	
North Kashmir	Kupwara	Trehgam	11	50
		Kralpora	12	
		Sogam	27	
	Baramulla	Singhpora	20	60
		Pattan	17	
		Boniyar	23	
Total				401

Compiled by Author

Table 3: Exploratory Factor Analysis for Microfinance

Items	Cost	Awareness	Satisfaction	Convenience	Self-confidence
I am satisfied with the size of the monthly installments	0.432				
I am satisfied with the loan disbursement fee	0.722				
The terms and conditions are explicit and clear		0.487			
I am fully aware of the necessary measures which will be taken in case of loan default.		0.548			
I am satisfied with the overall lending process		0.596			
I am satisfied with the behavior of employees during the lending process			0.715		
No guarantee is required by microfinance institution to approve a loan			0.677		
My respect has increased in society as a result of Success gained through microfinance.				0.702	
I now feel more determinant and more hopeful in family and society.				0.754	
My attitude is now more positive towards life				0.671	
I am satisfied with the loan application fee				0.703	
The procedure of obtaining loans from microfinance institutions is easier than conventional banks				0.580	
I often face problems in getting a loan				0.542	
My interest in social, economic and political issues ahs positively increased.					0.402
Complaints are well entertained by the loan provider					0.560
I am satisfied with the length of the meeting with the Loan Officer Staff					0.648
I have no issue with the frequency of meetings with the Loan Officer Staff					0.605
Total variance explained					
Percentage of variance	12.208	8.914	7.088	22.770	9.868
Cumulative percentage					
Eigen Values	2.075	1.515	1.205	3.871	1.677

Notes: Extraction Method: Principal Component Analysis**,** Rotation Method: Varimax with Kaiser Normalization**,** Rotation converged in 10 iterations**,** KMO= 0.690**,** N= 400

Table 4: Exploratory Factor Analysis for Poverty Alleviation

Items	Living standard	Health	Children education
There has been no child mortality in the last 5 years	0.905		
No child in the family has been malnourished	0.923		
I have better access to healthcare	0.633		
I am able to sponsor my children's education	0831		
No asset was purchased after availing microfinance loan	0.560		
The rate of morbidity has been decreased		0.607	
There has been increase in the nutritional status of the family		0.532	
There is no one in the family who is deprived of school education (up to 8 class)			0.721
All the household members have completed primary schooling (6 years)			0.739
Total variance explained			
Percentage of variance	41.228	17.477	12.955
Cumulative percentage	41.228	58.705	71.660
Eigen values	3.711	1.573	1.166

Notes: Extraction Method: Principal Component Analysis**,** Rotation Method: Varimax with Kaiser Normalization**,** Rotation converged in 5 iterations**,** KMO= 0.786**,** N= 400

Table 5: Exploratory Factor Analysis for Micro-Entrepreneurship

Items	Entrepreneurial empowerment
Loans are used in consumption and not invested	0.427
Microfinance Promotes all kinds of business	0.608
Assistance received from MFI was helpful to run the business	0.447
MFI constantly monitors the impact of training on clients	0.401
Total variance explained	
Percentage of variance	40.066
Cumulative percentage	47.066
Eigen values	1.883

Notes: Extraction Method: Principal Component Analysis**,** Rotation Method: Varimax with Kaiser Normalization**,** Rotation converged in 5 iterations**,** KMO= 0.675**,** N= 400

Table 5: Exploratory Factor Analysis for Entrepreneurial Training

Items	Training
Training made the maximum utilization of resources possible	0.775
Training provides know-how and support to participants who are willing to promote their own business	0.775
Total variance explained	
Percentage of variance	77.480
Cumulative percentage	77.480
Eigen values	1.550

Notes: Extraction Method: Principal Component Analysis**,** Rotation Method: Varimax with Kaiser Normalization**,** Rotation converged in 5 iterations**,** KMO= 0.500**,** N= 400

Table 7: Demographic Characteristics of respondents

	Frequency	Percentage	Cumulative%
Age			
Less than 20	53	13.3	13.3
21 - 30	167	41.8	55.0
31 – 40	124	31.0	86.0
More than 40	56	14.0	100.0
Total	400	100.0	
Marital status			
Single	143	35.8	35.8
Married	257	64.3	100.0
Total	400	100.0	
Education			
Illiterate	219	54.8	54.8
Under Matric	92	23.0	77.8
Matric	51	12.8	90.5
Higher	20	5.0	95.5
Graduate	15	3.8	99.3
Post Graduate	2	.5	99.8
Other	1	.3	100.0
Total	400	100.0	
Type of family			
Joint	103	25.8	25.8
Nuclear	279	69.8	95.5
Extended	18	4.5	100.0
Total	400	100.0	
Occupation			
Employed	32	8.0	8.0
Self-Employed	210	52.5	60.5
Unemployed	157	39.3	99.8
Family Business	1	.3	100.0
Total	400	100.0	

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