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FROM EARNINGS TO EMPOWERMENT: EXAMINING THE ROLE OF FINANCIAL INDEPENDENCE, EDUCATION, AND FAMILY STRUCTURE IN WOMEN'S DECISION-MAKING

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ABSTRACT

The economic independence of women has been a key to empowerment, but higher incomes may not be accompanied by the ability to make decisions at home. The research focuses on linking financial resource, education, household size and autonomy of women in an Indian microfinance program. The secondary data of the Mendeley repository included 422 observations of 211 women surveyed in 2015 and 2016. Descriptive comparisons, multivariate regression with respondent-clustered standard errors, interaction between household-size and analysis of first difference sensitivity models were used. The mean income grew to 42.28 against 35.81 documented units, and the decision-making scores went up to 0.815 as opposed to 0.782. However, there were no statistically significant adjusted relationships between income (β=0.0479, p=0.399), education (β=0.0087, p=0.188), and household size (= -0.0084, p=0.739) and autonomy. The moderation by household-size was also insignificant (p=0.196). These results draw the line between the descriptive economic gains and the evidenced gains in the decision-making power. The research provides a combined, longitudinal evaluation of both economic and household predictors of empowerment, noting measurement limitations and more detailed household-level data are needed.

Keywords: Women's Empowerment, Financial Independence, Decision-Making Autonomy, Educational Attainment, Household Composition.

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1. Introduction

The issue of women economic empowerment nowadays occupies the centre of the development research interest, especially in the extent to which financial resources access can be transformed into the significant decision-making power. Financial independence is now viewed as a multidimensional construct that includes income production, earnings control, financial stability and the capacity to make decisions within the household and community. Empowering women is not limited to just possession of resources, but also to the agency needed to transform economic opportunities into outcomes which are personally positive. This means that financial involvement cannot be viewed as an adequate indicator of empowerment unless it comes with more influence on the decisions that are made on daily living [1]. Women empowerment and economic development are two terms that are closely related, though the increase in household income and employment rates do not always lead to the removal of current gender inequality and unequal distribution of the power to make decisions [2]. The continuing social conventions, unequal access to productive means, and gender-specific roles also contribute to the power of women to have economic and personal autonomy especially in the developing economies [3].

Financial independence and decision-making relationship are particularly complicated in the societies where household resources are allocated based on the laid-down family hierarchies. The ability of women to impact on financial and social decisions is not only based on their individual incomes but also on their bargaining power, access to resources and the ability to engage in economic activities on their own. The household evidence of the developing countries suggests that the independence of women is closely linked with the economic status and the social factors under which the control over resources is provided [4]. In India women earnings and work prospects interact with prevailing social institutions which may impact mobility, family relations and agency of individuals [5]. The potential impact of expanding labor-market opportunities is also on women participation in the labor market, education decisions, and household decisions, which is why the role of economic empowerment and educational attainment is important to investigate [6].

Another significant parameter of the freedom of decision-making among women is household characteristics. The situations with financial spending, medical care, mobility, and allocation of resources are frequently discussed during negotiations between two or more members of the household. This means that economic contributions do not necessarily come with the same decision-making power especially when bargaining relationships are determined by uneven ownership, family duties, or social expectations [7]. Gender-based norms of paid work, unpaid household duties, and earning activities also make the issue of economic involvement and true autonomy more complex in India. Such norms can limit the capacity of women to transform the financial input into increased control of the household decision-making, despite the increase in their economic activities [8]. The family size and sharing of earning roles is thus an issue worth considering in addition to the individual financial and education levels.

Although women economic empowerment is widely researched, an analytical issue exists: do changes in financial situations independently correlate with the decision-making power, having controlled the level of education and household traits? This difference is most specifically applicable to microfinance contexts where the availability of financial services, the opportunity to borrow, and economic inclusion might exist alongside household unfair bargaining structures. Studies done on Indian microfinance in the past have shown the relevance of empowerment-related attributes in influencing the experience of women borrowing and the financial relationships they have [9]. Nonetheless, experimental evidence by other authors shows that microfinance is not always effective in transforming social and economic performance, which contradicts the presumptions that access to finance is always empowering [10]. Indian evidence also indicates that lending to women can have opposite effect to household vulnerability and women autonomy,

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indicating the significance of separating economic participation and substantive decision-making power [11]. It is on this background that this study examines the relationships between financial autonomy, education, household structure, and decision-making autonomy in women based on secondary longitudinal data of an Indian microfinance environment. The sample used in the analysis consists of 211 women followed in 2015 and 2016, which resulted in 422 respondent-years of observations. The operationalization of financial independence is carried out based on respondent income with the help of additional measures of savings and economic agency. Education levels are gauged in the number of years that a person has attended school, and household size is a visible factor of family structure. Autonomy in decision-making is investigated with the help of documented empowerment indicators, such as involvement in household decision-making and big purchases. To measure the relationships taking into consideration the pertinent demographic traits, multivariate regression, interaction analysis, and longitudinal sensitivity analyses are utilized.

The research contributes to the social-science literature by combining the concepts of income, education, and household size in a repeated-person design and distinguishing between descriptive economic gains and adjusted associations. The unique contribution of it compared with previous studies on microfinance is that it considers recorded decision-making autonomy as the primary outcome as opposed to credit access or borrowing outcomes, and a within-person sensitivity analysis is provided. There is no causal mechanism in the study. Its small, geographically focused sample, observational nature, and lack of direct nuclear-versus-joint family classification limit the external validity and inferences. Based on this, the research has the following three research objectives:

- To examine the association between women's financial independence and decision-making autonomy, considering respondent income, savings, and participation in household financial decisions.
- To evaluate the relationship between educational attainment and women's decision-making power, accounting for observable socioeconomic and demographic characteristics.
- To investigate the role of household composition in women's decision-making autonomy, particularly whether household size moderates the association between financial resources and decision-making participation.

2. Literature review

Empowerment of women has been widely discussed in terms of economic, institutional and sociocultural aspects, especially the correlation between economic resources and choice of decisions. Conceptual research defines empowerment as a multidimensional process that entails access to resources, agency of the individual as well as the capacity to attain substantial results. This viewpoint highlights that the economic progress in terms of participation cannot solely define empowerment without the consider the control of choice among women and structural disparities limiting their decision. Nonetheless, its expansive conceptualization causes difficulties when trying to establish uniform empirical indicators within socioeconomic context [12].

The household bargaining theories offer an analytical basis of how financial autonomy affects decision making powers. The theoretical models show how the household decisions are based on the division of the bargaining power, personal preferences and the comparative impact of the family members. These strategies elaborate the reason why enhancing the economic input of women can empower them in their bargaining capabilities without the need to alter the established household structures. However, the theoretical specifications often make the social relationships simple and fail to completely reflect the complexity of the cultural expectations and informal decision-making arrangements [13].

They have been investigated empirically, as to whether financial services enhance the ability of women to

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make resource and household decisions. Philippine experimental evidence showed that commitment savings products could empower the decision-making power of women, especially those who had initial limited bargaining power over their households. The experimental methodology offered more compelling data about the impacts of financial interventions but was limited in its ability to generalize to other contexts due to its institutional and geographical specificity [14]. Studies on Indian self-help associations also found positive correlations between microfinance membership and women empowerment. Nevertheless, there are some obstacles to participation-based evaluations, including selection effects, disparities in initial socioeconomic status, and discrepancies in measurements of empowerment [15].

Another critical factor of economic agency of women is asset ownership. In Nepal, women who owned land were found to be more empowered and their children were found to have better health, an indicator of the significance of owning productive resources as opposed to income per se. This method increased the measurement of economic independence, yet it was still difficult to separate the impact of ownership with household advantages that existed prior to taking the method [16].

The independence of women is also influenced by educational levels, social structures, and the geographical situation. The comparative studies conducted between India and Pakistan showed that there were significant variations in the autonomy of women both in religious and regional settings implying that social conditions could influence agency irrespective of individual educational or economic factors [17]. Demographic findings in Nepal also established a correlation between the participation of women in decision making and other aspects such as education, employment, age and household conditions. These types of observation yield useful information at the population level but are weak in creating causality and differentiating between individual economic and household impacts [18].

The relationship between education and empowerment also depends on women's opportunities to apply acquired knowledge and skills. Field-experimental evidence from India demonstrated that traditional social institutions could constrain women's participation in entrepreneurship-related training, indicating that educational and economic interventions may operate differently across social groups. Although experimental designs strengthen causal identification, their findings may depend on the intervention, population, and institutional setting [19].

The relations within the household also create problems with translating the economic resources into autonomy. Studies that investigated the bargaining power and maternal healthcare use in Indonesia determined that intrahousehold influence played a crucial role in making healthcare-related decisions. This method showed that household bargaining has non-financial spending implications, but those in healthcare may not reflect the overall economic and personal agency in women [20]. More contemporary Indian evidence explored the relationship between local labor-market opportunities and female household bargaining power and found it important to focus on the external economic conditions. Yet there is a conceptual difference between employment opportunities and achieved household authority that needs to be attentively considered to individual and household attributes [21].

Social studies also show that gender expectations affect the family formation and the decisions made by women. The facts about gender scripts and marriage patterns in India showed the importance of the fixed social norms, which influence individual behavior and support unequal opportunities. Even though such research augments the knowledge of institutional restraints, its most significant findings are not congruent with the first-hand measures of financial decision-making and autonomy of households [22].

Taken together, the current literature confirms that the empowerment of women is a matter of finances, education, the possession of assets, bargaining in the household, and the sociocultural environment. Experimental research provides more solid causal data but often involves the investigation of a certain intervention, whereas observational research has a wider socioeconomic scope and is susceptible to

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confounding and measurement errors. Furthermore, these studies tend to focus on individual economic traits, involvement in financial-programs or institutional conventions without co-examining incomes, education and household structure by conducting recurrent observations of the same women.

The current research fills a smaller research gap, as it looks at respondent income, education, and household size in a two-wave panel of 211 women in an Indian microfinance environment. In contrast to analyses that consider credit access or intervention effects as the central outcome, decision-making autonomy is considered the main outcome; an interaction specification model and within-person sensitivity model is used to assess the strength of the descriptive pattern. The tests aimed to determine whether the suggested associations can be identified in this particular sample, as opposed to asserting national representation or causality.

3. Methodology

3.1. Research Design

The present study used a quantitative, observational, and longitudinal research design to investigate the connection between the financial independence of women, their education level, household structure and the freedom to make decisions in the Indian microfinance. The secondary panel data were used to explore the relationship between economic resources and individual socioeconomic factors and the involvement of women in household decisions. The study was conducted using explanatory analytical methodology, which combines descriptive statistics, multivariate regression, moderation analysis and sensitivity testing.

The longitudinal design consisted of two observation stages, 2015 and 2016, which enabled the investigation of the changes in the financial resources and the indicator of empowerment among the same respondents. This design allowed the researcher to take a person-level time variation into account, unlike traditional cross-sectional studies that do not consider the dependence of observations made on the same person. However, the fact that the dataset being studied was observational, restricted causal interpretation since economic participation and decision-making autonomy would be affected simultaneously by unobserved household and social attributes.

3.2. Data Source and Study Population

The research article used secondary sources in the form of the article titled Credit Where Credit's Due: The Enabling Effects of Empowerment in Indian Microfinance, which is publicly accessible in the Mendeley Data repository [23]. The data was collected in field research on the socioeconomic situation of women and their participation in microfinance in Haryana, India.

The Stata dataset, SubmissionEmpowermentData.dta was downloaded and had 422 respondent-year observations that were 211 women surveyed in the year 2015 and 2016. In total, 93 variables recorded the demographic traits, education levels, individual income, savings, employment, household size, credit facilities, and empowerment outcomes.

The analysis sample was all the 211 women in the available panel. The identification of the respondents was done using individual identifiers and the observations were grouped according to the year of the survey. The data was considered a geographically defined research sample instead of a nationally representative population. As a result, the conclusions were limited to the attributes and conditions of women who participated in the initial microfinance study.

3.3. Measurement and Operationalization of Variables

The main dependent variable was the autonomy of women in their decision making, as indicated by the original indicator of decisionmaking. The value of 0, 0.5, and 1 were recorded, the larger numerical values were considered as more reported autonomy, without a presumption that similar numeric increments correspond to validated similar changes in the underlying construct. The key and the original questionnaire

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were not available in the available archive and thus the interpretation of intermediate response levels could not be confirmed individually. Additional indicators were 'BIGPURCHASES', 'INDEPENDENTINHHDECSIONS' and 'DECISONSPURCHASINGHHTHINGS'. These were evaluated individually instead of being lumped together to form an unvalidated empowerment scale.

The main explanatory construct was the financial independence. The main economic indicator was respondent income (incomeoftherespondent) which indicates the individually reported financial resources. Complementary indicators of economic agency were given by monthly savings (SavingsperMonth) and control over personal earnings (CONTROLOVERINCOME). Since income generation may not necessarily mean independent control over resources, these indicators were not necessarily lumped together into a single financial independence index but instead classified conceptually.

Education was operationalized in terms of the years of completed education (education years) which were a measure of formal schooling. Household composition was determined using household size (sizeofhousehold) and the number of working household members (noofworkingmembers) gave additional data on economic participation in families.

Notably, household size was not considered as direct categorization of nuclear or joint family set up, as the dataset itself did not explicitly outline these forms of set up. Other control variables such as age, caste category, source of lending and the year of survey were also used to capture any observable demographic and institutional variation.

3.4. Data Preparation and Quality Assessment

Python was used to prepare data and do statistical processing. The initial Stata file was read with the help of the panda's library, and the initial screening looked at the size of the dataset, the type of variables, the identifiers of the respondents, the lack of observations, and the uniformity across surveys.

Respondent-year combinations were used to check the panel structure: 211 different women were recorded in both 2015 and 2016, but no replicated respondent-year pairs. The principal outcome, income, education, household size, age, caste, lending source and survey-year variables were not missing any values in the primary regression. Factors were inputted as categorical predictors, instead of being given the continuous numeric meaning. All financial amounts were measured and interpreted conservatively since there was no complete survey codebook.

Since the distributions of incomes could be skewed positively, the transformation of respondent income was done in terms of the natural logarithm of one plus the amount of recorded income, ln (1 + income). This conversion minimized the impact of abnormally high values and still had observations of zero income.

The distributions of the outcomes were checked on ceiling effects and sparseness of changes between the two waves. The primary score is a three-level bounded variable, with 127 of 211 respondents (60.2%) at its maximum in 2015 and 140 of 211 (66.4%) in 2016. These properties restrict the daintiness of linear approximations and deter the perception of small numerical changes as approved changes in empowerment. There were no missing data that were imputed and the pre-specified regression variables were complete in the data that was available.

3.5. Statistical Analysis and Model Specification

The statistical analysis was carried out in the descriptive, explanatory, and robustness-testing phases. To begin with, descriptive statistics summarized the income, savings, educational attainment, household characteristics, and empowerment indicators on a year-by-year basis. Comparisons between 2015 and 2016 revealed the observed changes in the economic conditions and participation in the decision-making.

Second, multivariate pooled ordinary least squares regression was utilized to approximate the relation between the financial resources of women, education, family size, and independence of their decisions. The specification of the principal regression was:

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$$DMI_{it} = \beta_0 + \beta_1 FIN_{it} + \beta_2 EDU_{it} + \beta_3 HH_{it} + \gamma X_{it} + \delta YEAR_t + \varepsilon_{it} \quad (1)$$

In which DMI is the decision-making autonomy; FIN is the log of income of respondents; EDU is the educational attainment; HH is the number of people living in a household; X is the set of the chosen control variables; YEAR is the differences between the survey periods; and ε is the unexplained term.

Since there were two records per respondent, the heteroskedasticity-robust standard errors were clustered at the level of women (211 independent clusters). The pooled ordinary least squares specification approximates the three-level outcome on the recorded 01 outcome scale, and a transparent and exploratory linear approximation; this is not a calibrated probability model of the three-level outcome. Causal and longitudinal inference is limited by limited within person outcome variation and possible residual confounding.

Third, moderation analysis was used to determine how household size moderated the relationship between financial resources and decision-making autonomy. A cross-effect between the log-transformed income and household size was added into a regression model estimated individually. This specification measured the existence of a difference in the income autonomy correlation by household size.

Fourth, participation in major household purchase decisions were viewed as an alternative dependent variable in sensitivity analyses. A first-difference specification was also used to test the relationships between the changes in financial resources and changes in decision-making scores between the two survey periods. This analysis minimized the effect of time-invariant individual factors but was still vulnerable to time-varying confounder and measurement error.

The unstandardized coefficients, respondent-clustered standard errors (HC3 errors in the first-difference model), 95% confidence intervals, and two-sided p-values were summarized using models to determine the descriptive statistics of a relationship between two variables; however, $p < 0.05$ was not considered a sign of an effect, but rather a description. R. was used to report model fit. Other major-purchase and first-difference specifications were exploratory checks of robustness, rather than independent confirmatory checks. All the main estimates of control-variable are presented in Appendix A. Python was used to conduct the analysis based on pandas, SciPy, and statsmodels.

3.6. Ethical Considerations

The study entailed the secondary analysis of an existing dataset that was stored in a research depository. There was no further recruitment of any participants, no further interviews or surveys, and no other experiment intervention. The principles of confidentiality, responsible use of secondary data, and proper citing of the original investigators were adhered to in the data handling.

It was subjected to the repository licensing conditions of the dataset. Data on informed consent and ethical permission of the original survey were not established separately of the uploaded data file; hence, no unsubstantiated statement about institutional ethical approval was provided.

3.7. Methodological Limitations

There were several restrictions considered in the interpretation of the analysis. To start with, the sample size of 211 women was geographically limited, which limits the generalizability of the sample to the original study setting. Second, the two-wave observational design failed to prove causal relationships between financial independence and autonomy in decision-making. Third, household measures available did not allow a direct comparison between the nuclear and joint family structures. Fourth, some indicators of empowerment had little variation, which made them less sensitive to change at the individual level.

The lack of the original questionnaire and scoring documentation also does not allow independent construct validation, and the variable of respondent-income does not have a reported period and currency with which it should be measured. The ordinal nature of the outcome is not used by the primary linear outcome model, and precision is compromised by ceiling effects and limited change. There is also power limitation due to a

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small sample of respondents when compared to control and interaction parameters. Accordingly, the estimates reported are context-specific, observational associations that are exploratory in nature.

4. Results and Analysis

4.1. Socio-Demographic and Economic Characteristics of Respondents

The data included 422 respondent-years of 211 surveyed women in 2015 and 2016. The data was used to give information about the individual economic resources, the educational level, household features and involvement of the household in decision-making. The respondents were average age, 31.77 years at baseline, had an average of 5.53 years of education and were living in a household of about five individuals.

Table 1. Socio-Demographic and Economic Characteristics of Respondents Across Survey Years (2015–2016)

Indicator	**2015**	**2016**
Number of respondents (n)	211	211
Mean age (years), baseline	31.77	32.74
Mean educational attainment (years), baseline	5.53	5.53
Mean household size, baseline	5.01	5.01
Mean working household members	2.30	2.30
Mean respondent income (recorded units)	35.81	42.28
Mean monthly savings (thousands)	0.692	1.209

Note: The same 211 women were observed in both years. Education, household size, and the number of working household members were unchanged in the recorded panel; age was approximately one year higher in 2016. Respondent-income units and reporting period could not be independently verified from the source file.

Mean income of respondents rose to 42.280 recorded units against 35.806 and is an approximate 18.1 percent growth. The average monthly savings have gone up to 1.209 thousand units, and the descriptive increase is 74.7. These changes show that the average economic indicators were better during the two observation periods. Nevertheless, they fail to determine whether improvements were due to the participation in microfinance or other reasons.

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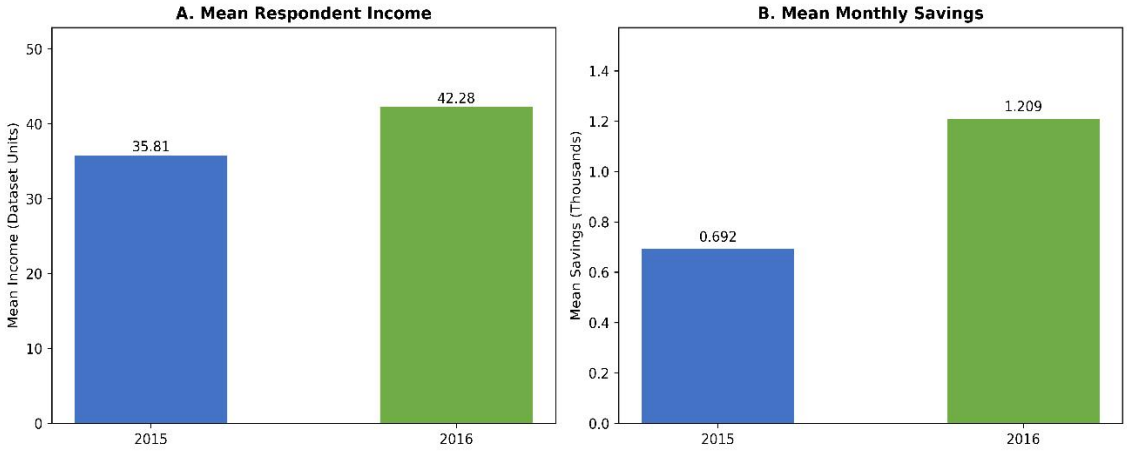

Figure 1. Changes in Women's Income and Monthly Savings Between 2015 and 2016.

4.2. Women's Decision-Making Autonomy and Empowerment Indicators

The empowerment of women was analyzed through a decision-making autonomy, purchasing capacity, freedom of movement, and involvement in significant household purchases. The aggregate values of all four measures are greater in 2016 compared to 2015.

Table 2. Comparative Analysis of Women's Decision-Making and Empowerment Indicators (2015–2016)

Empowerment indicator	2015	2016	Change
Decision-making score	0.7820	0.8152	+0.0332
Purchasing-capacity score	0.8412	0.9147	+0.0735
Freedom-of-movement score	0.5995	0.6682	+0.0687
Major-purchase participation (%)	69.19	83.41	+14.22 pp

Note: Changes are calculated from rounded means; pp = percentage points.

The total decision-making score had risen to 0.815 with the purchasing capacity going up by around 0.074 points. The freedom of movement grew by 0.068 points. The biggest proportional change was related to the major-purchase participation which increased by 14.22 percentage points.

At the individual level the decision-making score on the whole improved in 14 out of 211 women, no change in 197 women, and a decrease in 14. The maximum recorded autonomy score was already reached by 127 women (60.2%) in 2015 and by 140 women (66.4%) in 2016. This steep ceiling, along with the curious lack of observed declines, could be due to response coding or low response measurement responsiveness; it is not indicative of universally positive empowerment trends.

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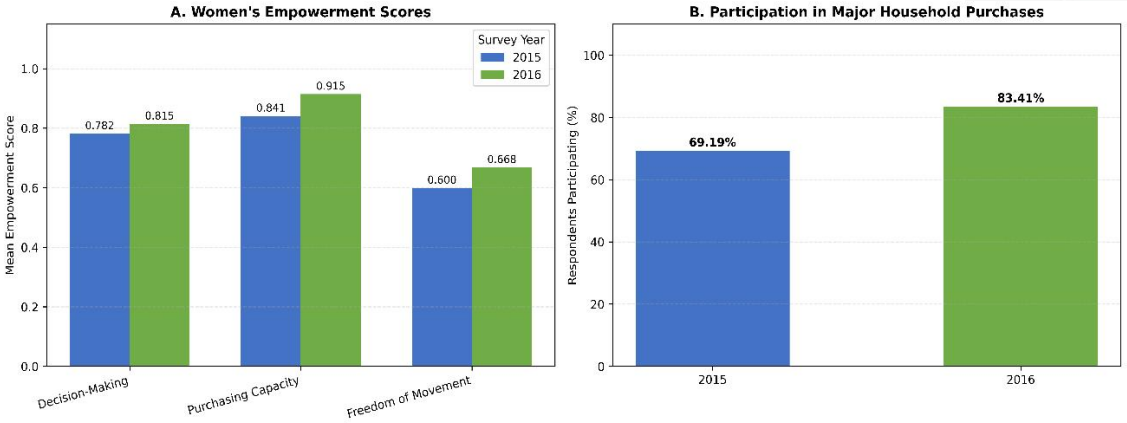

Figure 2. Comparison of Women's Decision-Making Autonomy and Empowerment Indicators Across Survey Years.

4.3. Association Between Financial Independence, Education, and Decision-Making

The multivariate regression test was conducted to determine whether financial resources and educational attainment and household size were correlated with decision-making autonomy among women after controlling the respondent age, caste, lending source and year of survey. Repeated observations were explained using respondent-clustered standard errors.

Table 3. Multivariable Regression Analysis of Factors Associated with Women's Decision-Making Autonomy

Predictor	**β**	**Standard Error**	**95% Confidence Interval**	**p-value**
Log(1 + respondent income)	0.0479	0.0569	−0.0636 to 0.1595	0.3995
Educational attainment (years)	0.0087	0.0066	−0.0042 to 0.0216	0.1880
Household size	−0.0084	0.0253	−0.0580 to 0.0411	0.7388

Note: The primary pooled OLS model included age, caste indicators, lending-source indicators, and the 2016 wave indicator, with 211 respondent clusters and 422 observations (R^2 = 0.048). The table reports focal predictors; Appendix A provides the complete model estimates and reference-category comparisons. CI = confidence interval. Coefficients are associations in recorded autonomy-score units.

Decision-making autonomy was positively estimated to have a relationship with logged income (β = 0.0479), but this association was not found to be significant (p = 0.399). The decision-making was also positively correlated with the level of education (0.0087), although the confidence interval was negative (p = 0.188). Household size had a small negative coefficient (β = 0.0084) with more autonomy predicted in smaller households, holding other covariates constant in the model. But this correlation was not statistically significant (p = 0.739).

This model accounted about 4.8% of the observed score variance (R 2 = 0.048). The adjusted wave

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coefficient was 0.0185 (95% CI -0.0100 to 0.0471; p = 0.203) in the year 2016, indicating that the raw change in the main autonomy measure was not found to be statistically significant after the adjustment. Appendix A shows the full covariate estimates. These findings do not prove that income, education or family relationships are not substantively important; these findings show imprecise relationships on this particular measured outcome and sample.

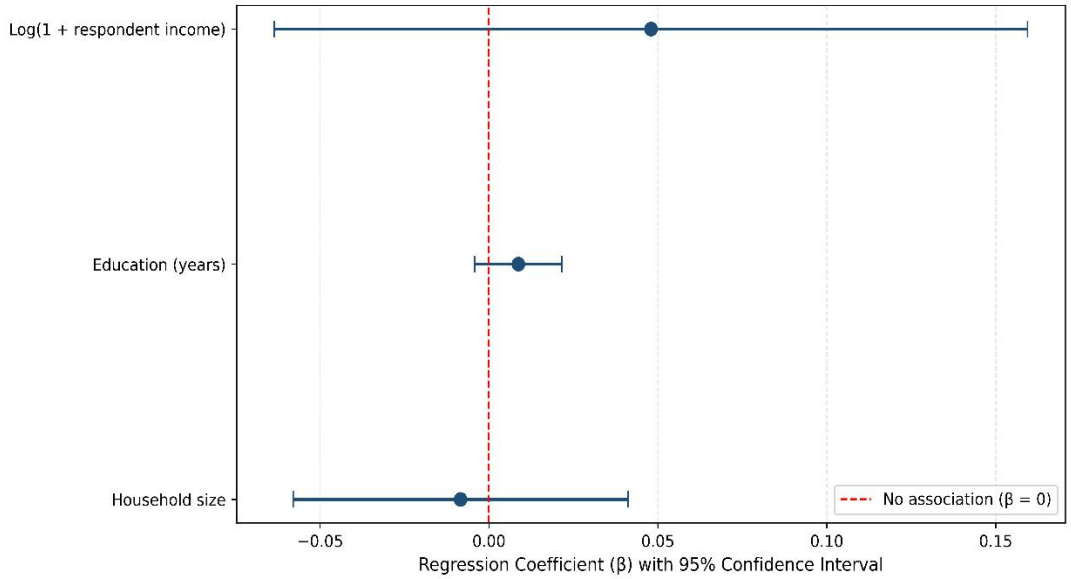

Figure 3. Adjusted Regression Coefficients and 95% Confidence Intervals for Women's Decision-Making Autonomy.

4.4. Moderating Effects of Household Composition and Robustness Analysis

A model of interaction examined whether the household size altered the relationship between income and autonomy in decision-making. Other sensitivity tests were major-purchase participation and in-person change in financial resources.

Table 4. Household-Size Interaction Effects and Sensitivity Analysis of Women's Decision-Making Autonomy

Model specification / Predictor	β	95% Confidence Interval	p-value	Model R^2
Income × household-size interaction	−0.0348	−0.0876 to 0.0179	0.1959	0.0514
Survey year 2016 (major-purchase outcome)	0.1383	0.0825 to 0.1941	<0.001	0.1025
Change in logged income	−0.0143	−0.0391 to 0.0104	0.2573	0.0031
Change in logged savings	0.0195	−0.0501 to 0.0892	0.58	0.00

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Model specification / Predictor	β	95% Confidence Interval	p-value	Model R^2
			24	31

Note: Rows derive from separate exploratory specifications, not one jointly estimated model. The interaction uses mean-centered household size; the binary major-purchase outcome is analyzed using a linear probability model. The first-difference regressions use one change score per woman (n = 211); the main and interaction regressions use 422 respondent-year records with clustered standard errors. None of these analyses identifies a causal microfinance effect.

The interaction between income and household size was negative (0.0348), but the relationship was not significant (0.196). In line with this, the results could not determine that household size altered the connection between income and autonomy of decision-making.
The alternative-outcome model revealed a positive correlation between the 2016 survey indicator and the involvement in major household purchases (= 0.1383, p < 0.001). This result suggests that there is increased adjusted participation during the latter survey period but does not prove an effect of treatment.
Changes in income (β = -0.0143, p=0.257) and changes in savings (0.0195, p=0.582) yielded non-significant results in the first-difference analysis. The low explanatory power (R 2 = 0.003) and number of respondents whose autonomy scores varied minimized the accuracy of longitudinal relationships.

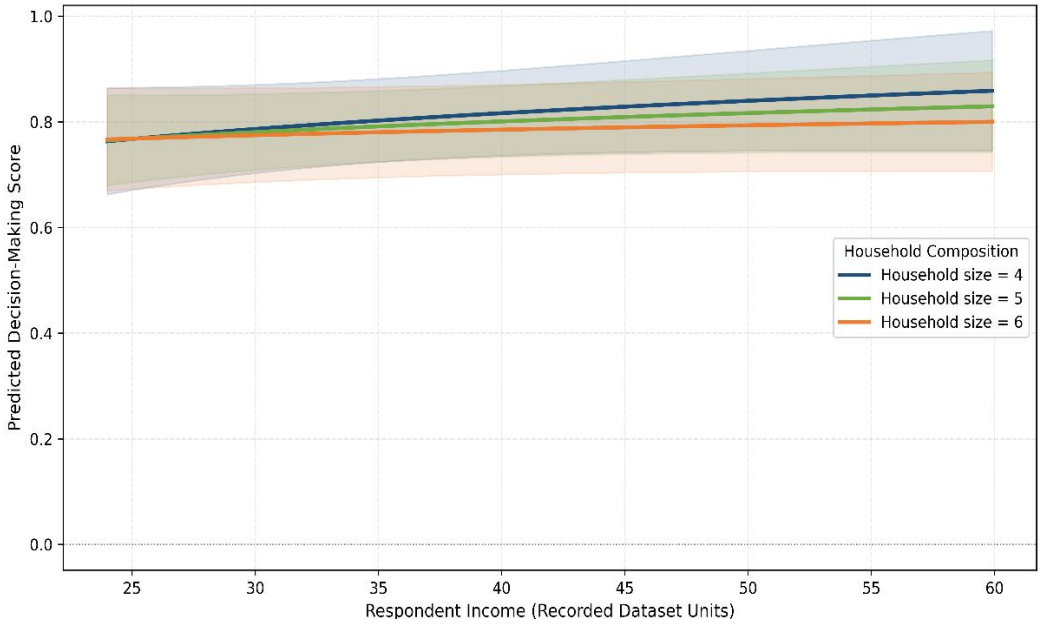

Figure 4. Adjusted Income–Household Size Interaction and 95% Confidence Bands.

4.5. Summary of Empirical Findings

The analysis found descriptive gains in the income, savings, purchasing power, freedom of movement, and household decision-making among women between the years 2015 and 2016. Nonetheless, adjusted associations between income, education, household size and the principal decision-making outcome were not statistically significant based on multivariate analyses. The interaction and first-difference analyses also

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only gave weak evidence of these relationships.

The results imply that gains in economic indicators and the chosen empowerment tools went hand in hand throughout the study period, and the existing evidence does not prove that the shifts in earnings alone were converted to increased decision-making power. Household size, too, cannot be taken to be a direct indicator of nuclear or joint family structure.

5. Discussion

The current paper has analyzed how financial independence, educational attainment, household composition, and decision-making autonomy of women are interrelated based on two-wave panel data of 211 women in Haryana, India. The descriptive results revealed that there were increases in several economic and empowerment indicators in the period between 2015 and 2016. The average income of respondents grew to 42.28 recorded units as compared to 35.81 and the monthly savings grew to 1.209 thousand units compared to 0.692 thousand units. The decision-making autonomy (0.782 to 0.815), purchasing capacity (0.841 to 0.915), and major-purchase participation (69.19% to 83.41%) were also increased. Nevertheless, these descriptive gains were not statistically significant between the key explanatory variables with overall decision-making autonomy.

The multivariate regression revealed that respondent income and decision-making autonomy were positively but statistically not significant (= 0.0479, p = 0.399). This result indicates that larger financial resources was not an independent explanatory variable of significant differences in decision-making scores in the estimated model. Past experimental findings have shown that financial instruments have the potential of increasing the decision-making power of women, especially those who had low bargaining power [14]. On the same note, a study conducted on the Indian self-help groups found positive correlation between participation in microfinance and empowerment [15]. Conversely, the current results suggest that the rise in economic indicators should not be regarded as the sign of the rise of household authority. These contrasting outcomes could be partly attributed to differences in the study design, measurement strategies, and the characteristics of the respondents.

Education levels were positively associated with decision-making autonomy, but not significantly (0.0087). This indicates that formal schooling was not alone to justify observed differences in autonomy following the factoring of the included socioeconomic characteristics. Past studies have shown that education and economic opportunities exist in institutional settings that can limit the exercise of the acquired capabilities by women [19]. The current results are in line with the larger meaning that educational attainment might need enabling household and social environments to be converted into more agency, but the estimated relationship does not directly determine this process.

A small and statistically insignificant negative coefficient (β = -0.0084, p = 0.739) was observed in household size. The household size-income interaction was not also significant (= -0.0348, p = 0.196), which is not enough to support the hypothesis that bigger households undermine the relationship between financial resources and the freedom of decision-making. The already available studies have highlighted how family norms and gender expectations affect the decisions made by women and their social standing [22]. Household size, however, may not be able to capture family structure, intrahousehold power distribution, or nuclear and joint families. In turn, the lack of substantial moderation must not be taken as the indication that family relationships do not matter when it comes to empowerment.

The longitudinal sensitivity analysis also indicated that the changes in income (β = -0.0143, p = 0.257) and savings (0.0195, p = 0.582) did not have significant relationships with the change in the decision-making scores. Notably, there were only 14 respondents who reported an increase in the primary autonomy measure whereas 197 were not changed. This limited the ability of outcome variability thereby decreasing statistical

sensitivity. Even though there was a significant increase in major-purchase participation in the alternative-outcome model, this observation is an adjusted-temporal relationship but not causal.

These results can be applied to the evaluation of financial-inclusion programs. Women should not have their substantive decision authority measured using economic participation, savings, and access to loans without attempts to measure separately control overspending, mobility, and bargaining. The role of other household members should be documented by the practitioners and decision-specific indicators should be used; the current estimates of observations do not in itself determine what interventions would enhance these results.

It has limitations, such as the small, geographically concentrated sample; no validation of reporting units on income; missing questionnaire and ethics documentation; no explicit nuclear-versus-joint household types; the ordinal three-level outcome forecasted using linear regressions; ceiling effects; and lack of a convincing causal identification strategy. Clustering mitigates against repeated-person dependence but does not eliminate unmeasured time-varying confounding or inflate the number of independent women to more than 211.

Future research would obtain a copy of the original questionnaire/codebook, obtain explicit kinship and co-residency ties, test multi-item decision measures, and evaluate ordinal or constrained-outcome models as well as linear estimations. Multisite panels including more waves and viable quasi-experimental variation would help in convincingly differentiating the direction of economic-agency relationships. Inference would also be enhanced by transparent replication files and prespecified robustness checks.

6. Conclusion

This research paper examined the relationship between the financial independence of women, their level of education and household size with their increased decision-making autonomy within an Indian microfinance context. The study utilized descriptive statistics, multivariate regression with respondent-clustered standard errors, moderation, and longitudinal sensitivity analysis with two-wave panel data of 422 observations of 211 women surveyed in 2015 and 2016. The results indicated a positive change in the income of respondents, savings, purchasing power, freedom of movement, and involvement in large household purchases. Nevertheless, the adjusted regression findings showed that there were no statistically significant relationships between income (= 0.0479, = 0.399), education (= 0.0087, = 0.188), household size (= -0.0084, = 0.739), and general decision-making autonomy. The interaction effect between the income and household-size was also not significant, which shows a lack of moderation. The paper adds to the body of research on empowerment by illustrating how it is crucial to differentiate between the gains in economic resources and statistically determined shifts in the control of decisions. Its results indicate that efforts to include women financially must evaluate the agency of women in a substantive manner in addition to the traditional economic metrics. However, the geographically localized sample, a narrow range of the autonomy scores, observational nature, and lack of family-specific typologies curtail interpretation and generalizability. The future study needs to use bigger longitudinal studies, multidimensional empowerment scales that are validated, and indicators of household relationships to study the mechanisms of the relationship between financial resources, education, family structures, and the empowerment of women in making decisions.

References

[1] N. Kabeer, “Resources, agency, achievements: Reflections on the measurement of women's empowerment,” Development and Change, vol. 30, no. 3, pp. 435–464, 1999, doi: 10.1111/1467-7660.00125.

[2] E. Duflo, “Women empowerment and economic development,” Journal of Economic Literature, vol. 50,

no. 4, pp. 1051–1079, 2012, doi: 10.1257/jel.50.4.1051.
[3] S. Jayachandran, "The roots of gender inequality in developing countries," Annual Review of Economics, vol. 7, pp. 63–88, 2015, doi: 10.1146/annurev-economics-080614-115404.
[4] S. Anderson and M. Eswaran, "What determines female autonomy? Evidence from Bangladesh," Journal of Development Economics, vol. 90, no. 2, pp. 179–191, 2009, doi: 10.1016/j.jdeveco.2008.10.004.
[5] N. Luke and K. Munshi, "Women as agents of change: Female income and mobility in India," Journal of Development Economics, vol. 94, no. 1, pp. 1–17, 2011, doi: 10.1016/j.jdeveco.2010.01.002.
[6] R. Jensen, "Do labor market opportunities affect young women's work and family decisions? Experimental evidence from India," The Quarterly Journal of Economics, vol. 127, no. 2, pp. 753–792, 2012, doi: 10.1093/qje/qjs002.
[7] C. Doss, "Intrahousehold bargaining and resource allocation in developing countries," The World Bank Research Observer, vol. 28, no. 1, pp. 52–78, 2013, doi: 10.1093/wbro/lkt001.
[8] A. Deshpande and N. Kabeer, "Norms that matter: Exploring the distribution of women's work between income generation, expenditure-saving and unpaid domestic responsibilities in India," World Development, vol. 174, Art. no. 106435, 2024, doi: 10.1016/j.worlddev.2023.106435.
[9] B. Saha and N. Sangwan, "Credit where credit's due: The enabling effects of empowerment in Indian microfinance," World Development, vol. 122, pp. 537–551, 2019, doi: 10.1016/j.worlddev.2019.06.009.
[10] A. Banerjee, E. Duflo, R. Glennerster, and C. Kinnan, "The miracle of microfinance? Evidence from a randomized evaluation," American Economic Journal: Applied Economics, vol. 7, no. 1, pp. 22–53, 2015, doi: 10.1257/app.20130533.
[11] S. Garikipati, "The impact of lending to women on household vulnerability and women's empowerment: Evidence from India," World Development, vol. 36, no. 12, pp. 2620–2642, 2008, doi: 10.1016/j.worlddev.2007.11.008.
[12] N. Kabeer, "Gender equality and women's empowerment: A critical analysis of the third millennium development goal 1," Gender & Development, vol. 13, no. 1, pp. 13–24, 2005, doi: 10.1080/13552070512331332273.
[13] K. Basu, "Gender and say: A model of household behaviour with endogenously determined balance of power," The Economic Journal, vol. 116, no. 511, pp. 558–580, 2006, doi: 10.1111/j.1468-0297.2006.01092.x.
[14] N. Ashraf, D. Karlan, and W. Yin, "Female empowerment: Impact of a commitment savings product in the Philippines," World Development, vol. 38, no. 3, pp. 333–344, 2010, doi: 10.1016/j.worlddev.2009.05.010.
[15] R. B. Swain and F. Y. Wallentin, "Does microfinance empower women? Evidence from self-help groups in India," International Review of Applied Economics, vol. 23, no. 5, pp. 541–556, 2009, doi: 10.1080/02692170903007540.
[16] K. Allendorf, "Do women's land rights promote empowerment and child health in Nepal?" World Development, vol. 35, no. 11, pp. 1975–1988, 2007, doi: 10.1016/j.worlddev.2006.12.005.
[17] S. J. Jejeebhoy and Z. A. Sathar, "Women's autonomy in India and Pakistan: The influence of religion and region," Population and Development Review, vol. 27, no. 4, pp. 687–712, 2001, doi: 10.1111/j.1728-4457.2001.00687.x.
[18] D. R. Acharya, J. S. Bell, P. Simkhada, E. R. van Teijlingen, and P. R. Regmi, "Women's autonomy in household decision-making: A demographic study in Nepal," Reproductive Health, vol. 7, Art. no. 15, 2010, doi: 10.1186/1742-4755-7-15.
[19] E. Field, S. Jayachandran, and R. Pande, "Do traditional institutions constrain female entrepreneurship? A field experiment on business training in India," American Economic Review, vol. 100, no. 2, pp. 125–129,

2010, doi: 10.1257/aer.100.2.125.
[20] K. Beegle, E. Frankenberg, and D. Thomas, "Bargaining power within couples and use of prenatal and delivery care in Indonesia," Studies in Family Planning, vol. 32, no. 2, pp. 130–146, 2001, doi: 10.1111/j.1728-4465.2001.00130.x.
[21] S. Adkins, "Shifting the balance: Examining the impact of local labor market opportunities on female household bargaining power in India," The Journal of Development Studies, vol. 60, no. 5, pp. 685–704, 2024, doi: 10.1080/00220388.2023.2286890.
[22] S. Desai and L. Andrist, "Gender scripts and age at marriage in India," Demography, vol. 47, no. 3, pp. 667–687, 2010, doi: 10.1353/dem.0.0118.
[23] N. Sangwan, "Data for: Credit Where Credit's Due: The Enabling Effects of Empowerment in Indian Microfinance," Mendeley Data, ver. 1, Mar. 31, 2020, doi: 10.17632/k4h8w39zd8.1.