

Banking Accessibility, Service Satisfaction and Financial Literacy Among Self-Help Group Members: A Comparative Empirical Study Of Punjab and Haryana

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Abstract: *Self-Help Group (SHG)-bank linkage can expand formal financial access, but its effectiveness also depends on members' ability to obtain convenient services and use financial information. This comparative cross-sectional study examined two relationships among SHG members in Punjab and Haryana: the association between the frequency of banking accessibility problems and overall service satisfaction, and the association between the frequency of financial literacy training and self-rated financial literacy after joining an SHG. The state-wise dataset comprised 500 valid cases (Punjab, n=250; Haryana, n=250). Crosstabulations were standardised to report observed counts, expected counts and row percentages, and associations were tested with Pearson's Chi-square statistic. Accessibility problems were significantly associated with service satisfaction in Punjab (chi-square=58.039, df=16, $p<0.001$) and Haryana (chi-square=73.157, df=16, $p<0.001$). Training frequency was also associated with financial literacy in Punjab (chi-square=158.883, df=16, $p<0.001$) and Haryana (chi-square=36.393, df=12, $p<0.001$). Punjab displayed a significant ordered trend, whereas Haryana did not, indicating different state-level response patterns. Because 40.0%-56.0% of cells in the four analyses had expected counts below five, the asymptotic results should be treated as exploratory and confirmed with exact or Monte Carlo procedures. Overall, the findings support simpler service processes, local banking assistance and recurring, context-specific financial literacy interventions for SHG members.*

Keywords: Self-Help Groups; SHG-Bank Linkage Programme; banking accessibility; service satisfaction; financial literacy; crosstabulation; Chi-square test; Punjab; Haryana.

Introduction

Self-Help Groups (SHGs) have become an important institutional mechanism for promoting savings, formal credit access and collective socio-economic participation among underserved communities. In India, the Self-Help Group-Bank Linkage Programme (SHG-BLP), supported by NABARD and the banking system, connects informal community groups with regulated financial institutions. Evidence from Indian SHG programmes links participation with improved access to finance, poverty reduction and multidimensional empowerment, although the magnitude of benefit varies by setting [1]-[5]. Reserve Bank of India guidance requires banks to use simple procedures, meet the credit needs of SHGs and support capacity-building measures [14]. NABARD's programme documentation likewise describes SHG-BLP as a cost-effective model serving unattended and underserved rural households, with continuing emphasis on training, institutional support and last-mile access [15].

Expansion in the number of linked groups does not automatically ensure convenient or satisfactory use of banking services. Members may still experience distance, documentation, transaction delays, communication gaps and limited assistance, while financial literacy may constrain their ability to compare products, understand credit obligations and use accounts effectively [6], [7], [12]. The present study therefore compares Punjab and Haryana on two questions: whether the frequency of accessibility problems is associated with overall banking-service satisfaction, and whether the frequency of financial literacy training is associated with self-rated literacy after joining an SHG. The analysis is based on 250 valid responses per state and uses crosstabulation and Chi-square testing. It identifies associations rather than causal effects and is intended to inform state-sensitive improvements in SHG-bank service delivery.

Literature Review

Research on SHG-bank linkage generally treats the group as both a financial intermediary and a collective institution. Sinha et al. [1] reported that NABARD-linked SHGs contributed to poverty reduction and empowerment, while Deininger and Liu [2] found positive economic and social effects from an innovative SHG model in India. Swain and Wallentin [3] further showed that empowerment depends on several programme and household factors rather than credit access alone. These studies establish that SHG outcomes reflect the interaction of finance, group functioning and the wider institutional environment.

More recent evidence reinforces the collective dimension of SHGs. Kumar et al. [4] found that women's group membership strengthened selected dimensions of empowerment, and Al-Kubati and Selvaratnam [5] linked SHG-BLP with livelihoods, skills, confidence and sustainable development. Pandhare et al. [13], using quantitative and qualitative evidence from rural Maharashtra, similarly reported gains in financial independence, decision-making and social support. The literature therefore supports SHGs as platforms for capability development, but it also indicates that outcomes depend on the quality and continuity of programme support.

Banking accessibility is broader than account ownership or the availability of credit. Iqbal and Sami [12] emphasised the role of banks in extending inclusive services, whereas Maity's studies

in Assam [6], [7] showed that SHG-led microfinance can improve financial inclusion and reduce social exclusion. These findings imply that access must be evaluated in terms of actual use, institutional responsiveness and the ability of members to complete transactions. Service satisfaction is therefore likely to reflect both positive benefits from formal linkage and persistent operational barriers.

Financial literacy is another central mechanism. Ruhela and Prakash [8] observed improved knowledge of basic financial and identification documents among SHG members after joining groups. Using 967 SHG-BLP members in Uttarakhand, Pandey et al. [9] highlighted financial literacy as a necessary condition for maximising the programme's contribution to resilience and inclusion. Roy and Patro [11] also reported that SHG participation can improve a women-centred measure of financial inclusion. These studies support repeated learning opportunities rather than treating one-time orientation as sufficient.

The evidence on training, however, is not uniform. Arjun and Subramanian [10] found that participation in SHG-based micro-financial activities improved financial literacy, but participation in financial-literacy promotion programmes was not itself statistically significant after other factors were considered. This distinction suggests that training frequency, content, delivery quality, education and household resources may jointly shape literacy outcomes. It also cautions against assuming that every training exposure produces the same ordered improvement.

A clear gap remains in comparative state-level evidence that examines accessibility and financial literacy within the same analytical design. Much of the literature focuses on empowerment, poverty, financial inclusion indices or a single region. Fewer studies compare how accessibility problems relate to satisfaction and how training frequency relates to self-rated literacy across neighbouring states. By applying identical categorical analyses to Punjab and Haryana, the present study addresses this gap while retaining appropriate caution about cross-sectional inference and sparse contingency cells.

Research Methodology

The study used a quantitative, comparative and cross-sectional design. The supplied state-wise dataset contained 250 valid observations for Punjab and 250 for Haryana. Within each state, two contingency analyses were examined: (i) frequency of accessibility issues with bank services x overall satisfaction with services provided to the SHG, and (ii) frequency of financial literacy training x self-rated financial literacy after joining the SHG. Crosstabulations were reformatted to display the observed count (n), expected count (E) and row percentage for every cell. Pearson's Chi-square test assessed independence at $\alpha=0.05$, and Cramer's V summarised association strength. Because the dataset did not include a longitudinal or experimental design, all findings were interpreted as associations rather than causal effects.

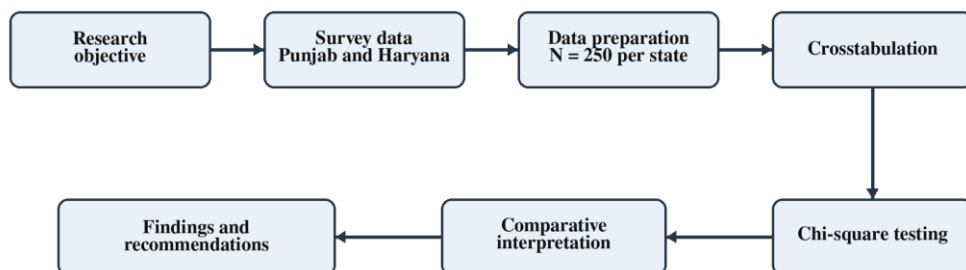


Figure 1. Research methodology flowchart

Figure 1 Interpretation: The methodological sequence begins with the study objective and separates the analysis by state. Survey responses are organised into categorical variables, followed by cross-tabulation and Chi-square testing. This structure enables direct observation of response distributions and formal testing of whether the observed relationship is unlikely to arise under an independence assumption. The final stage compares statistically significant and non-linear patterns across Punjab and Haryana.

Statistical Model and Decision Rules

For an $r \times c$ contingency table, the expected frequency in cell (i,j) is $E_{ij} = (R_i \times C_j) / N$. Pearson's Chi-square statistic is $\chi^2 = \sum [(O_{ij} - E_{ij})^2 / E_{ij}]$, with $df = (r-1)(c-1)$, where O_{ij} is the observed frequency, E_{ij} is the expected frequency and N is the valid sample size [16], [17]. Cramer's V is $V = \sqrt{[\chi^2 / (N \times \min(r-1, c-1))]}$. The null hypothesis assumes independence between the categorical variables and is rejected when $p < 0.05$. SPSS reports $p = .000$ as $p < 0.001$, not as a probability of zero. Conventional asymptotic Chi-square guidance expects no more than 20% of cells to have $E < 5$ and no cell to have $E < 1$; all four source tables exceeded the first guideline. Accordingly, the reported p -values are retained for comparability but interpreted cautiously, with exact or Monte Carlo confirmation recommended.

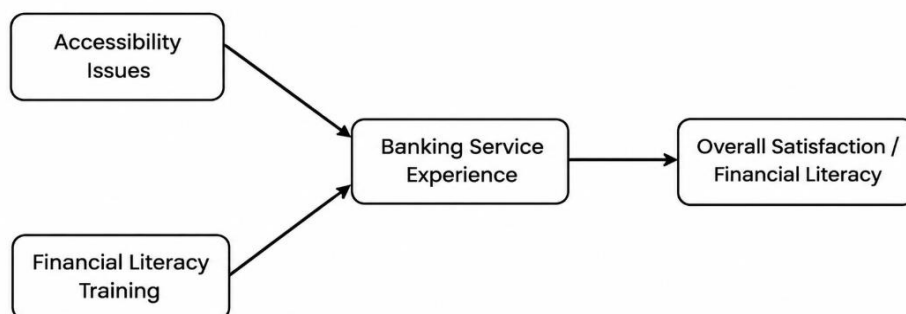


Figure 2. Conceptual analytical model

Figure 2 Interpretation: The model distinguishes two explanatory dimensions of the SHG–bank experience. Accessibility issues represent operational barriers encountered when using banking services, whereas financial literacy training represents an institutional capacity-building input. The empirical analyses test their associations with satisfaction and financial literacy respectively. The intermediate banking-service experience concept is interpretive rather than an estimated causal variable; no regression coefficient or causal effect is claimed from the supplied cross-sectional contingency data.

Results and Discussion

Table 1. Punjab: Accessibility Issues x Overall Service Satisfaction

Frequency	Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied	Total
Never	0 (0.4) 0.0%	0 (1.6) 0.0%	0 (3.9) 0.0%	5 (5.5) 31.3%	11 (4.5) 68.8%	16 (16.0) 100.0%
Rarely	0 (0.9) 0.0%	3 (3.2) 9.4%	4 (7.8) 12.5%	14 (11.0) 43.8%	11 (9.1) 34.4%	32 (32.0) 100.0%
Sometimes	3 (1.0) 8.1%	8 (3.7) 21.6%	11 (9.0) 29.7%	14 (12.7) 37.8%	1 (10.5) 2.7%	37 (37.0) 100.0%
Often	4 (2.5) 4.5%	14 (8.8) 15.9%	27 (21.5) 30.7%	20 (30.3) 22.7%	23 (25.0) 26.1%	88 (88.0) 100.0%
Always	0 (2.2) 0.0%	0 (7.7) 0.0%	19 (18.8) 24.7%	33 (26.5) 42.9%	25 (21.9) 32.5%	77 (77.0) 100.0%
Total	7 (7.0) 2.8%	25 (25.0) 10.0%	61 (61.0) 24.4%	86 (86.0) 34.4%	71 (71.0) 28.4%	250 (250.0) 100.0%

Note: Each cell reports observed count n (expected count E), followed by the row percentage.

Table 2. Punjab: Chi-Square Test for Accessibility and Satisfaction

Statistic	Value	df	p (2-sided)	Cramer's V
Pearson Chi-square	58.039	16	<0.001	0.241
Likelihood ratio	75.184	16	<0.001	-
Linear-by-linear association	0.326	1	0.568	-

N=250. Ten cells (40.0%) had $E < 5$; minimum $E = 0.45$.

Combined interpretation of Tables 1 and 2: In Punjab, respondents reporting no accessibility issues were concentrated in the very satisfied category (68.8%), while members reporting issues sometimes showed a more dispersed pattern and only 2.7% were very satisfied. Pearson's Chi-square test indicated a significant association between accessibility frequency and satisfaction, chi-square(16, $N=250$)=58.039, $p < 0.001$, with Cramer's $V = 0.241$. The null hypothesis of independence was therefore rejected. However, 40.0% of cells had $E < 5$, exceeding the conventional guideline; the association should be treated as exploratory and verified with an exact or Monte Carlo test.

Table 3. Punjab: Financial Literacy Training x Financial Literacy Level

Frequency	Very low	Low	Neutral	High	Very high	Total
Never	7 (0.4) 50.0%	5 (1.3) 35.7%	0 (4.1) 0.0%	0 (4.9) 0.0%	2 (3.2) 14.3%	14 (14.0) 100.0 %
Rarely	1 (0.9) 3.6%	8 (2.6) 28.6%	4 (8.3) 14.3%	9 (9.9) 32.1%	6 (6.4) 21.4%	28 (28.0) 100.0 %
Sometimes	0 (2.3) 0.0%	8 (6.6) 11.1%	22 (21.3) 30.6%	34 (25.3) 47.2%	8 (16.4) 11.1%	72 (72.0) 100.0 %
Often	0 (2.8) 0.0%	2 (8.0) 2.3%	32 (25.8) 36.8%	26 (30.6) 29.9%	27 (19.8) 31.0%	87 (87.0) 100.0 %
Always	0 (1.6) 0.0%	0 (4.5) 0.0%	16 (14.5) 32.7%	19 (17.2) 38.8%	14 (11.2) 28.6%	49 (49.0) 100.0 %

Frequency	Very low	Low	Neutral	High	Very high	Total
Total	8 (8.0) 3.2%	23 (23.0) 9.2%	74 (74.0) 29.6%	88 (88.0) 35.2%	57 (57.0) 22.8%	250 (250.0) 100.0 %

Note: Each cell reports observed count *n* (expected count *E*), followed by the row percentage.

Table 4. Punjab: Chi-Square Test for Training and Financial Literacy

Statistic	Value	df	p (2-sided)	Cramer's V
Pearson Chi-square	158.883	16	<0.001	0.399
Likelihood ratio	102.846	16	<0.001	-
Linear-by-linear association	35.772	1	<0.001	-

N=250. Eleven cells (44.0%) had *E*<5; minimum *E*=0.45.

Combined interpretation of Tables 3 and 4: Punjab displayed a marked training-literacy pattern. Among members who never received training, 50.0% rated their literacy very low and 35.7% low, whereas the often-trained group was concentrated in neutral, high and very high categories, including 31.0% at very high. The association was significant, chi-square(16, *N*=250)=158.883, *p*<0.001, Cramer's *V*=0.399, and the linear-by-linear statistic was also significant (*p*<0.001), supporting an ordered relationship in these data. The independence hypothesis was rejected, but 44.0% of cells had *E*<5; exact or Monte Carlo confirmation remains necessary.

Table 5. Haryana: Accessibility Issues x Overall Service Satisfaction

Frequency	Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied	Total
Never	5 (0.7) 41.7%	0 (0.5) 0.0%	0 (2.8) 0.0%	0 (5.3) 0.0%	7 (2.7) 58.3%	12 (12.0) 100.0 %
Rarely	5 (1.8) 15.6%	3 (1.3) 9.4%	10 (7.6) 31.3%	9 (14.1) 28.1%	5 (7.3) 15.6%	32 (32.0) 100.0 %
Sometimes	0 (0.6) 0.0%	0 (0.4) 0.0%	3 (2.6) 27.3%	8 (4.8) 72.7%	0 (2.5) 0.0%	11 (11.0) 100.0 %

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Frequency	Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied	Total
Often	0 (6.7) 0.0%	7 (4.8) 5.8%	26 (28.3) 21.7%	56 (52.8) 46.7%	31 (27.4) 25.8%	120 (120.0) 100.0 %
Always	4 (4.2) 5.3%	0 (3.0) 0.0%	20 (17.7) 26.7%	37 (33.0) 49.3%	14 (17.1) 18.7%	75 (75.0) 100.0 %
Total	14 (14.0) 5.6%	10 (10.0) 4.0%	59 (59.0) 23.6%	110 (110.0) 44.0%	57 (57.0) 22.8%	250 (250.0) 100.0 %

Note: Each cell reports observed count n (expected count E), followed by the row percentage.

Table 6. Haryana: Chi-Square Test for Accessibility and Satisfaction

Statistic	Value	df	p (2-sided)	Cramer's V
Pearson Chi-square	73.157	16	<0.001	0.270
Likelihood ratio	73.816	16	<0.001	-
Linear-by-linear association	7.935	1	0.005	-

N=250. Fourteen cells (56.0%) had $E < 5$; minimum $E = 0.44$.

Combined interpretation of Tables 5 and 6: In Haryana, the often and always categories represented 48.0% and 30.0% of respondents, respectively. Within these groups, 72.5% and 68.0% were satisfied or very satisfied, showing that accessibility problems can coexist with positive evaluations of other service attributes. Nevertheless, accessibility frequency and satisfaction were significantly associated, chi-square(16, N=250)=73.157, $p < 0.001$, Cramer's $V = 0.270$; the ordered component was also significant ($p = 0.005$). The independence hypothesis was rejected, although the high proportion of sparse cells (56.0%) requires cautious interpretation and exact or Monte Carlo verification.

Table 7. Haryana: Financial Literacy Training x Financial Literacy Level

Frequency	Low	Neutral	High	Very high	Total
Never	1 (0.8) 9.1%	3 (3.0) 27.3%	7 (4.1) 63.6%	0 (3.0) 0.0%	11 (11.0) 100.0%
Rarely	0 (0.8) 0.0%	7 (2.8) 70.0%	2 (3.8) 20.0%	1 (2.7) 10.0%	10 (10.0) 100.0%

Frequency	Low	Neutral	High	Very high	Total
Sometimes	8 (6.0) 10.1%	17 (21.8) 21.5%	32 (29.7) 40.5%	22 (21.5) 27.8%	79 (79.0) 100.0%
Often	3 (8.9) 2.6%	29 (32.3) 24.8%	44 (44.0) 37.6%	41 (31.8) 35.0%	117 (117.0) 100.0%
Always	7 (2.5) 21.2%	13 (9.1) 39.4%	9 (12.4) 27.3%	4 (9.0) 12.1%	33 (33.0) 100.0%
Total	19 (19.0) 7.6%	69 (69.0) 27.6%	94 (94.0) 37.6%	68 (68.0) 27.2%	250 (250.0) 100.0%

Note: Each cell reports observed count n (expected count E), followed by the row percentage. The source output contained no 'Very low' response category for Haryana.

Table 8. Haryana: Chi-Square Test for Training and Financial Literacy

Statistic	Value	df	p (2-sided)	Cramer's V
Pearson Chi-square	36.393	12	<0.001	0.220
Likelihood ratio	37.498	12	<0.001	-
Linear-by-linear association	0.001	1	0.973	-

N=250. Nine cells (45.0%) had $E < 5$; minimum $E=0.76$.

Combined interpretation of Tables 7 and 8: Haryana's largest training group was often (46.8% of respondents), within which 37.6% reported high and 35.0% very high literacy. The sometimes-trained group also recorded 68.3% in the high or very high categories, but the always group did not continue this ordered rise. Pearson's test nevertheless showed a significant association, chi-square(12, N=250)=36.393, $p < 0.001$, Cramer's V=0.220, while the linear-by-linear result was not significant ($p=0.973$). Thus, the independence hypothesis was rejected, but a consistent monotonic trend was not supported. Because 45.0% of cells had $E < 5$, exact or Monte Carlo confirmation is recommended.

Comparative Discussion

Across both states, accessibility issues were significantly associated with overall banking-service satisfaction. This finding is consistent with the broader argument that formal account or credit access is insufficient unless members can use banking channels conveniently and receive responsive institutional support [6], [7], [12]. It also complements Sinha et al. [1], who connected SHG-bank linkage with improved socio-economic outcomes. At the same time, the crosstabs show that frequent accessibility problems coexisted with positive satisfaction among many Haryana respondents. Satisfaction should therefore be interpreted as multidimensional:

respondents may value credit access or staff support while still encountering delays, documentation burdens or other operational barriers.

Financial literacy training was associated with self-rated literacy in both states, but Punjab showed the stronger and more clearly ordered pattern. The Punjab result is compatible with Ruhela and Prakash [8] and Pandey et al. [9], who linked SHG participation and financial capability, and with Roy and Patro [11], who reported improved women-centred financial inclusion among SHG participants. It also supports the wider view that financial knowledge contributes to informed use of formal financial services [18]. However, the analysis establishes association only; members with higher initial motivation, education or engagement may also attend training more often.

Haryana's significant but non-linear training pattern adds an important qualification. Arjun and Subramanian [10] found that participation in SHG-based micro-financial activities improved financial literacy, but attendance in literacy-promotion programmes was not independently significant in their multivariate model. The Haryana result is compatible with that nuance: programme exposure may matter, but frequency alone may not capture training content, delivery quality, reinforcement, member education or opportunities to apply learning. Banks and SHG-promoting institutions should therefore monitor competency gains rather than counting training sessions alone.

The interstate differences reinforce the need for context-sensitive implementation. Prior research documents substantial variation in SHG outcomes across regions and institutional settings [5]-[7], [13]. Punjab may benefit from maintaining regular tiered training linked to practical tasks such as account use, credit appraisal and repayment planning. Haryana may require closer diagnosis of curriculum quality, participant segmentation and follow-up support. In both states, RBI's emphasis on simple procedures [14] and NABARD's capacity-building approach [15] provide a relevant policy basis for reducing last-mile service frictions.

The statistical evidence must be read with the expected-count limitation in view. In all four analyses, more than 20% of cells had expected frequencies below five; the proportion ranged from 40.0% to 56.0%. Although every Pearson test was significant, sparse cells can distort asymptotic p-values [16], [17]. Future analyses should pre-specify substantively defensible category combinations or use exact/Monte Carlo tests, and should supplement Chi-square results with multivariable or longitudinal models. These steps would clarify whether observed associations persist after controlling for demographic, group and banking-service characteristics.

Conclusion

The study found statistically significant associations between banking accessibility and service satisfaction, and between financial literacy training and self-rated financial literacy, in both Punjab and Haryana. Punjab exhibited a stronger, ordered training-literacy pattern, whereas Haryana showed a significant but non-linear relationship. The findings support simplified banking procedures, local assistance channels and recurring financial education that is tailored

to member needs and evaluated through demonstrated competencies. Because the evidence is cross-sectional and all Chi-square analyses contained a high proportion of small expected counts, the results should not be interpreted causally or as definitive population estimates. Future research should use exact or Monte Carlo tests, broader service-quality measures, stratified sampling information and longitudinal or multivariable designs.

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