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Gender Differences in Financial Literacy and Confidence Calibration among Punjabi Graduates: Evidence from the Big Three

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Abstract

This study examined the level of basic financial literacy using the "Big Three" questions developed by Lusardi and Mitchell in 2004, as well as the perceived financial knowledge. For this study, data have been collected from 126 respondents of Punjab who had minimally graduated with a bachelor's degree in any stream. Results revealed that there are minor gender differences in basic financial literacy ($p > 0.05$); however, males reported higher self-rated knowledge, indicating overconfidence among them. Females' performance on risk diversification (F3) is better than while males outperformed on the inflation question (F2). Females are more prone to choose "Don't Know" than their male peers. 61.1 percent of individuals show underconfidence, while gender differences are not significant in calibration ($p=0.721$). These results showed that the gender gap is mostly caused by how people think they are good with finances, rather than by what they know. This study suggests financial education that focuses on both concepts and creating confidence. These kinds of initiatives can help both men and women make better financial decisions in line with India's National Strategy for Financial Education (2020–2025).

Keywords: Financial Literacy; Gender Differences; Confidence Calibration; Behavioral Finance; Financial Education; Perceived Knowledge; India

Introduction

Researchers all over the world are discussing financial literacy (FL) as traditional pensions and financial products are being replaced with defined and more complex markets (Lusardi & Mitchell, 2014). Therefore, consumers have to make more and more complicated and sometimes confusing financial decisions in today's complex financial environment. This shift puts tremendous responsibilities on individuals to manage their long-term financial well-being, making solid knowledge of compound interest, inflation, and risk diversification essential for avoiding unsustainable debt and reaching financial security. The "Big Three" (Lusardi & Mitchell, 2007, 2011, 2023) developed by Lusardi and Mitchell in 2004 emerged as the standardised global framework for assessing core concepts of FL, i.e., compound interest, inflation, and risk diversification. Global gaps in FL exist, especially in developing countries like India, where 24percent of adults have basic financial literacy (S&P Global FinLit Survey, 2015). Alarmingly, just 14percent grasp risk diversification and 51percent compound interest, indicating major knowledge deficiencies.

A persistent gender gap aggravates these challenges. Worldwide, males are 35 percent

financially literate compared to 30 percent for females. Although women are less likely to answer FL questions correctly and choose the "don't know" option as an answer (Lusardi and Mitchell, 2014; S&P Global FinLit Survey, 2015), despite often showing better financial behaviours. Since women live longer, have work interruptions, and are more likely to become poor in old age, this confidence discrepancy is substantial (Bucher-Koenen & Lusardi, 2011). This study focuses on Punjabi graduates, a population often assumed to be highly financially literate due to their education. A study by Singh and Kumar in 2017 revealed that people often possess insufficient practical financial knowledge, even if they are educated with higher degrees. We employ a dual-lens approach to compare objective FL knowledge using the "big three", analyse "don't know" (DK) responses as a behavioural indicator of confidence, and evaluate calibration between perceived and actual FL.

This study makes two key contributions to the existing literature; Firstly, the assumption of linking formal education with FL is challenged. Secondly, the confidence-knowledge gap is examined through this study in the unique context of Punjab. These findings are particularly relevant to India's National Strategy for Financial Education (NSFE, 2020-2025), providing insights for the formulation of planned strategies that empower graduates, especially women, with the knowledge and confidence required to manage increasingly complicated financial decisions.

Literature Review

Conceptual Foundations, Confidence Biases, and Standardized Frameworks

FL is now considered a basic life skill to navigate the day-to-day complex economic environment (OECD/INFE, 2011). It integrates attitudes and behaviours with financial knowledge, which are also important to make sound financial decisions (Lusardi & Mitchell, 2007). The importance of FL has increased due to the shift to individual financial responsibility, reflected by the transition from defined benefits to defined contribution plans and the increasing number of financial products (Lusardi & Mitchell, 2014). Individuals are at risk of making inefficient decisions, such as unnecessary debt and insufficient savings, which ultimately affect their long-term financial stability, in the absence of sufficient knowledge. Behavioural economics has given us a strong understanding of financial literacy by focusing on bounded rationality which means people often makes financial decisions with imperfect information combined with limited cognitive resources (Delavande et al., 2008). A very important insight emerges from this literature is the variance between actual financial knowledge and perceived financial knowledge. Males are primarily observed as overconfident, which is associated with their higher risk-taking behaviour (Chen & Volpe, 2002). However, the resistance to participation in financial activities categorized females as underconfident more commonly (Bucher-Koenen et al., 2021). It is important to note that only a small fraction of individuals, approximately 4-5 percent, show well-calibrated self-assessment (Allgood & Walstad, 2016). Kiliyanni and Sivaraman (2016) found in their study that young adults in India overrate their financial knowledge by 50 percent. This finding highlights the importance of examining self-perception combined with factual literacy.

The "big three" FL questions developed by Lusardi and Mitchell measure compound interest, inflation, and risk diversification. These basic questions became the standardized framework to evaluate fundamental financial knowledge globally (Lusardi & Mitchell, 2007, 2011, 2023). Simplicity and conceptual strength of these questions facilitate significant cross-country comparisons and are replicated across various groups. Performance on these questions was shown to have a substantial correlation with real-world financial behaviours like as investment and retirement planning, according to research conducted in India by Agarwal et al. (2015) and Agarwalla et al. (2015). These frameworks, on the other hand, frequently draw attention to significant gaps along socioeconomic and gender lines.

Gender Differences in FL and Evolving Policy Solutions

OECD (2016) reports that women continuously score lower than men in terms of their financial literacy,

indicating that the gender gap in FL is a persistent global problem. More often this is a reflection of a confidence difference rather than a disparity in actual competence. Women are more likely to select "Don't Know" responses (Federal Reserve Board, 2024) and report lower levels of self-efficacy, despite having comparable or even higher performance in risk-related decision-making (Lusardi et al., 2010; Bucher-Koenen et al., 2022). More research from India shows that women, despite actively managing household expenses, have a tendency to defer strategic financial decisions to male family members due to institutional and cultural hurdles (Singh & Kumar, 2017; Arora, 2016; Baluja, 2016). This is even though women are actively managing household finances. Roy and Jain (2018) found that even among educated women living in metropolitan areas, there is still a limited acquaintance with financial products.

The National Strategy for Financial Education (NSFE 2020–2025) of India places an emphasis on working towards two distinct objectives: enhancing financial knowledge and raising confidence, particularly among young people and women. RBI's Financial Literacy Week (2025), which will be centered around the topic of "Women's Prosperity," and NCFE's hybrid assessment methods, which combine objective assessments with self-ratings, are also components of these activities. On the other hand, national figures continue to demonstrate low literacy rates, with barely 35 percent of adults fulfilling basic requirements (RBI, 2021; NCFE, 2015).

Research Gaps and Contribution of this Study

Despite comprehensive studies on FL, as per the author's knowledge, few studies investigate the relationship between confidence and competence in educated people in India and specifically in Punjab state. Very few studies have examined DK response patterns as behavioural indicators of uncertainty or gendered risk aversion. This study addresses these gaps by extending the "Big Three" concept to Punjabi graduates, who are frequently thought to be financially literate, and analysing objective and self-assessed competency. This research uses calibration patterns and response behaviors to support gender-sensitive financial education techniques and NSFE-aligned policy improvements.

Research Objectives and Hypotheses

This study uses the standardized "Big Three" paradigm to analyze gender-based financial literacy inequalities among Indian graduates. It aims to:

1. Comparing the performance of males and females on objective financial literacy questions.
2. Analyse the frequency of "Don't Know" answers as indicators of confidence and uncertainty.
3. Assess misalignment between self-perceived and actual financial literacy, identifying confidence-competence gaps.

Hypotheses

1. Male respondents will score significantly higher than their female peers.
2. Male respondents will mark more correct responses than female respondents.
3. Females are more prone to choose the "don't know" option than male respondents.
4. Male respondents will overestimate literacy (self-rated scores exceeds actual performance) more than female respondents.

Data and Methodology

In this study cross-sectional quantitative design was adopted to measure the level of FL and confidence among individuals who at least held a bachelor's degree. The methodology incorporates systematic data collection through purposive sampling and analysis of both objective financial knowledge and self-rated financial competency, with special focus on gender differences.

Data Sources and Sampling Methodology

To collect the primary data, a Google form comprising 6 questions, including the "big three" questions sent purposively to the people who have at least graduated with a bachelor's degree in any stream via Email, Google groups, LinkedIn, WhatsApp, to ensure the alignment with the study's focus on the educated population of Punjab. The survey tool was constructed based on two main components:

Objective FL

Respondents were given the "big three" questions developed by Lusardi and Mitchell (2007) with some modifications according to the Indian currency system, which examined the understanding of:

- Compound Interest: "Suppose you have ₹10,000 in a savings account, and the account earns an interest rate of 2% per year. After 5 years, how much money will you have in the account if you leave it to grow?"
- Inflation: "Imagine the interest rate on your savings account is 1% per year, and the inflation rate is 2% per year. After one year, will the money in your account buy, more, less, or the same?"
- Risk Diversification: True/False: "Investing all your money in shares of a single company is usually safer than investing in a diversified mutual fund."

Each question included a "don't know" option to check the uncertainty and limitations in knowledge.

Perceived FL

Participants were asked to rate their financial knowledge on a 10-point Likert scale, where, 0 means "no knowledge", 1 means "very low" and 10 means "very high". This self-assessment helps to analyze confidence-knowledge alignments and the identification of overconfidence, underconfidence, and calibration by comparing actual score and self-rated score.

Analytical Approach

Both inferential and descriptive statistics used for this study. Descriptive statistics incorporated demographic characteristics such as gender and score distributions. Hypothesis testing utilized t-tests and chi-square tests to assess gender differences in financial literacy, confidence levels, and response patterns (e.g., "Don't Know" options). Self-rated and actual scores were used to classify participants into three categories: overconfident, underconfident, and calibrated. All analyses were performed utilizing MS Excel and JASP version 0.18.3.

Scoring and Confidence Classification

To evaluate the level of basic financial literacy scores derived from the performance of participants on "big three" questions. Each correct response was assigned 1 point, while incorrect and "DK" responses received a score of 0. This scoring system as the same as in global financial literacy assessments and largely validated studies around the world (OECD, 2016; Lusardi & Mitchell, 2011).

Participants were asked to rate their financial knowledge on a 10-point Likert scale, as previously discussed. To compare the perceived FL with objective FL, normalization of self-rated scores has been done utilizing the formula:

Normalized Self-Rated Score=((Self-Rated Score (0-10))/10)×3

This normalization is consistent with prior research evaluating overconfidence in financial decision-making contexts (Agarwal et al., 2015; Stolper & Walter, 2017).

This comparison facilitates the categorization of behavioural confidence in three types:

1. Overconfident: Perceived FL score >Actual FL score
2. Underconfident: Perceived FL score <Actual FL score
3. Calibrated: Perceived FL score = Actual FL score (±0.1),

These classifications reflect confidence calibration, which is an established construct in behavioural finance and metacognitive psychology (Perry & Morris, 2005; Fernandes et al., 2014; Lusardi & Mitchell, 2014; Allgood & Walstad, 2016).

Results and Discussion

Primary survey received 135 responses, from which 9 entries were eliminated during data cleaning, due to either a lack of self-assessment or failure to answer any of the three principal questions, both of which are crucial for this study. The remaining 126 respondents' data is analysed for this study.

Source: Primary Survey

Figure 1: Gender-wise sample distribution

Figure 1 shows the gender-wise distribution in the sample used for this study. Of 126 participants, 54 males and 72 females filled the questionnaire, which is approximately 43 percent and 57 percent, respectively. The uneven gender distribution may not represent the whole graduate population of Punjab, though it enriches the study with FL disparities from a gender lens. Future studies should expand the sample size to balance the proportion of genders to maintain the study's focus on the educated cohort.

"Big Three" Analysis of Respondents by Gender

Table 1: Descriptive statistics of "Big Three"

Metric	FL1	FL2	FL3	Actual Score (F1+F2+F3)
N	126	126	126	126
Mean ($\bar{X}$)	0.754	0.611	0.802	2.167
Std. Deviation (SD)	0.432	0.489	0.4	0.986

Source: Primary Survey

Table 1 shows the descriptive statistics for three FL items: FL1 (Interest), FL2 (Inflation), and FL3 (Risk), as well as the actual score, which is the cumulative score of all three items gained by 126 respondents. The average score is highest for risk diversification ($\bar{X}$ =0.802; SD=0.400), which means respondents were comfortable with the risk diversification question (FL3). The mean accuracy for the interest question (FL1) is slightly lower ($\bar{X}$ =0.754; SD=0.432), which shows moderate understanding of interest compounding, while lowest for the inflation question (FL2), which is ($\bar{X}$ =0.611; SD=0.489). The result shows that, on average, people have good knowledge of risk diversification, moderate knowledge of interest, and slightly lower knowledge of inflation. The actual score mean ($\bar{X}$=2.167) and standard deviation (0.986) show that people have lower FL as those who scored 3 points only called financially literate (Lusardi and Mitchell, 2011;2014;2023) but the average is even less than 2.5. These findings are similar to Bansal and Kaur (2024), which shows that educated young people in Punjab had the same level of literacy. So the policy framework should focus on inflation knowledge mainly as overall performance is affected by all three parameters and people have weak knowledge of inflation than other two parameters.

Table 2: Summary of Factor-Level Performance, Mean Scores, and Variability

Question	Performance Interpretation	Mean Score ($\bar{X}$)	Mean Interpretation	Standard Deviation (SD)	Variability Interpretation	Empirical Alignment
FL1	Good (Above average; moderate variability in responses)	0.754	Good performance, indicating reasonable understanding	0.432	Moderate variability (indicative of some disagreement)	Lusardi & Mitchell (2007); OECD-INFE (2011)
FL2	Moderate/ Acceptable (Closer to midpoint; higher variability)	0.611	Needs attention; understanding closer to a random guess	0.489	Least consistent; high disagreement across respondents	Agarwal et al. (2015); Kiliyanni & Sivaraman (2016)
FL3	Very Good (Strong performance; most consistent across participants)	0.802	Best performing; strong agreement among participants	0.4	Most consistent, tight clustering of responses	Lusardi & Mitchell (2011); OECD (2016)

Source: Primary Survey and Literature Review

Table 3: Gender-Wise Descriptive Statistics of "Big Three"

Metric	FL1		FL2		FL3	
	Female	Male	Female	Male	Female	Male
N	72	54	72	54	72	54
Mean ($\bar{X}$)	0.75	0.759	0.597	0.63	0.833	0.759
Std. Deviation (SD)	0.436	0.432	0.494	0.487	0.375	0.432
Skewness	-1.179	-1.248	-0.405	-0.552	-1.827	-1.248
Std. Error of Skewness	0.283	0.325	0.283	0.325	0.283	0.325

Source: Primary Survey

Table 3 shows the descriptive analysis of all three core questions across gender (males = 54 and females = 72). The mean score in FL1 for females is 0.75 and for males 0.759, with SD 0.436 and 0.432, respectively, indicating lower gender-based variation in compounding interest. In case of FL2 (inflation), there is a small variation in the scores of males and females similar to FL1, with the females scoring somewhat lower ($\bar{X}$ = 0.597, SD = 0.49) than their male peers ($\bar{X}$ = 0.63, SD = 0.49). It is interesting to note that females performed better than males in the FL3 (risk diversification), with a mean score of 0.833 and SD = 0.38, in comparison to the mean score of 0.759 and SD = 0.43 for males. This shows that females have a stronger understanding of risk-related ideas.

The skewness metric of all three questions is negative, depicting a left-skewed distribution, which means, most of the respondents are answering correctly. The highest negative skewness (-1.827) for females in FL3, reveals that a large proportion of females scored higher in risk diversification, as discussed previously. There is no significant variation in the standard errors of skewness between the groups (0.283 for females and 0.325 for males), which indicates that the sample distribution is consistent. The response values for all three items are binary, i.e., 0 and 1, indicating that the scoring is dichotomous (0 = incorrect; 1 = correct).

Table 4: Gender-wise Comparison of FL Scores using Independent Samples T-Test

Variable	t	df	p-value	Cohen's d	Interpretation
FL1	-0.118	124	0.906	-0.021	No significant difference
FL2	-0.367	124	0.715	-0.066	No significant difference
FL3	1.028	124	0.306	0.185	No significant difference
Actual Score	0.182	124	0.856	0.033	No significant difference

Source: Primary Survey

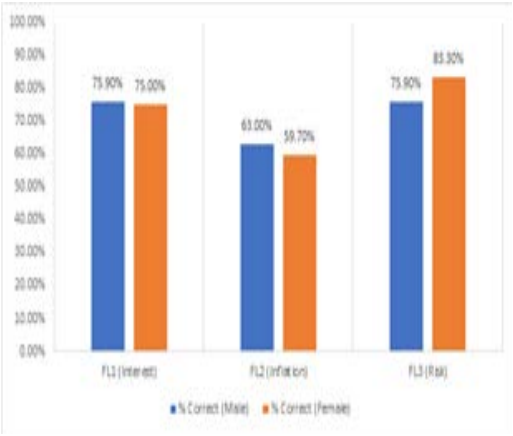
Note: Student's t-test conducted with equal variances assumed based on Levene's test ($p > 0.05$ for all).

For testing the first hypothesis, independent sample t-tests have been employed, which shows that there is no statistically significant difference between males and females on any of the three variables of financial literacy (FL1, FL2, FL3) or the total score ($p > 0.30$ for all comparisons). The effect sizes are calculated by Cohen's d, ranging from -0.021 to 0.185, showing that the practical differences are negligible to small. Findings of this study shows that gender does affect much the levels of financial literacy within this educated population, which rejected our hypothesis. These findings align with the researches conducted in India that control for educational attainment (Bansal and Kaur, 2024).

Analysis of "Correct Responses"

The second hypothesis of this study is that male respondents will mark more correct responses than female respondents. For testing this hypothesis, this study utilized a graphical representation of percentage

correct responses across males and females as shown in Figure 2, as well as a Chi-square statistical test applied to check differences among respondents as in Table 5 below.



Source: Primary Survey

Figure 2: Correct responses (%) of the "big three" across gender

Figure 2 shows the percentage of correct responses to FL questions given by males and females. As visualized in the figure, both genders answered risk questions more correctly, and the least correct of the inflation-related question overall, similar to the previous discussion of average score. Females responded better in the risk question, with 83.30 percent correct answers, than males, who correctly responded 75.90 percent to the risk diversification, as well as performed better than other two questions. Males performed similarly on interest-related question, with 75.90 percent depicting their knowledge consistency across two parameters of FL, while correct responses in the same are 75 percent by females, which is slightly lower than males, indicating a weakness in numeracy. Both genders performed significantly lower in the inflation-related question, as shown in the graph, where males and females hit 63 percent and 59.70 percent correct responses, respectively. The panoptic view of the figure shows that females performed better in the risk question, were almost similar in compounding interest, and significantly lower in the inflation question than males. From the gender lens, these results are somewhat inconsistent with international studies (Bucher-Koenen et al., 2022; OECD, 2016), which often show that males are more financially literate than females, yet consistent with Indian studies, which indicate that when education is controlled, the gender gap may vanish in or lower down in financial knowledge (Agarwalla et al., 2015; Bansal & Kaur, 2024).

Table 5: Chi-Square Analysis of "Correct Responses" to the Big Three Across Gender

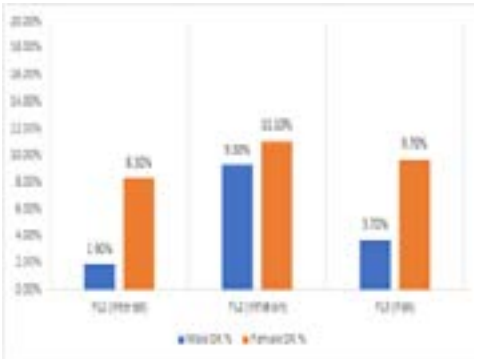
Variable	Gender	Correct (1)	Incorrect (0)	χ^2	df	p-value	Cramer's V	Interpretation
FL1	Female	54	18	0.014	1	0.905	0.011	No significant difference
	Male	41	13					
	Total	95	31					
FL2	Female	43	29	0.136	1	0.712	0.033	No significant difference
	Male	34	20					
	Total	77	49					
FL3	Female	60	12	1.065	1	0.302	0.092	No significant difference (Larger gender gap observed)
	Male	41	13					
	Total	101	25					

Source: Primary Survey

Table 5 shows the results of the Chi-square tests of independence applied to each FL variable to check the gender difference in correct responses among males and females. Results of FL1 ($\chi^2(1) = 0.014$, $p = .905$, Cramer's $V = 0.011$) and FL2 ($\chi^2(1) = 0.136$, $p = .712$, Cramer's $V = 0.033$) show no gender differences in the correctness of FL questions. As discussed in Figure 2 for FL1 75.9 percent for males and 75 percent for females recorded correct responses, and similarly FL2 shows slight differences in correct responses given by males and females. However, for FL3, statistically not significant difference is revealed in males and females with $\chi^2(1) = 1.065$, $p = .302$, Cramer's $V = 0.092$, but the larger gender gap is observed in FL3, consistent with our previous discussions. These results show no significant difference between males and females in responding correctly (rejecting the second hypothesis), so the study concluded that there is a very weak association between gender and FL performance on the big three.

Analysis of DK Responses Across Gender

Despite having equivalent or even superior performance in risk-related decision-making (Lusardi et al., 2010; Bucher-Koenen et al., 2022), women are more likely to select "Don't Know" responses (Federal Reserve Board, 2024) and report lower levels of self-efficacy. This is the case even though women are more likely to claim lower levels of self-efficacy. Therefore, in this study graphical method and the Chi-square independent test are applied to test whether females choose DK as a response more as compared to males, as shown in Figure 3 and Table 6 discussed below.



Source: Primary Survey

Figure 3: "Don't Know" response (%) patterns for the big three across gender

Figure 3 illustrates the graphical examination of percentage DK response patterns between males and females. At first glance, the figure indicates that females are more likely to select DK as a response compared to males. In FL1, merely 1.90 percent of males said "Don't Know," whereas 8.30 percent of females selected this option in the numeracy question, highlighting women's lower confidence in compounding interest despite their strong performance in all three key topics. The FL2 difference is somewhat smaller (males = 9.30%, females = 11.10%), but significant, as females exhibit nearly uniform patterns of DK responses throughout the three questions (FL3 = 9.70%), whereas males have inconsistent DK patterns (FL3 = 3.70%). Results indicate that males evaded inflation-related inquiries by selecting "Don't Know" more frequently than the other two variables of financial literacy. Conversely, females evaded all three inquiries with more frequency.

Table 6: Chi-Square Analysis of DK Responses Across Gender

Question	Gender	DK = 1 (Don't Know)	DK = 0 (Answered)	χ^2	df	p-value	Cramer's V	Interpretation
FL1	Female	6	66	2.471	1	0.116	0.14	No significant difference
	Male	1	53					(Trend toward gender gap)
FL2	Female	8	64	0.114	1	0.735	0.03	Larger gender gap observed
	Male	5	49					No significant difference
FL3	Female	7	65	1.685	1	0.194	0.12	
	Male	2	52					No significant difference
								Mild gender trend

Source: Primary Survey

Table 6 illustrates the results of the Chi-square test applied to statistically test whether there are any gender differences in the responses to the "big three" financial literacy questions as DK (third hypothesis). Even though none of the questions depicted a gender difference statistically significant ($p > 0.05$), an important and highlighted trend is observed in FL1 (interest), where a large number of female participants selected "don't know" in comparison to males ($\chi^2 = 2.471$, $p = 0.116$, Cramer's $V = 0.14$). This shows that there is a larger gender gap in confidence among females regarding interest-related understanding. Mild disparities observed in the risk (FL3) query ($\chi^2 = 1.685$, $p = 0.194$, Cramer's $V = 0.12$). These findings show that there is existence of gender gap in response confidence, which is not significant, possibly due to the smaller sample size. So, this study suggests investigating gender patterns in responses to an extended sample size.

Analysis of Confidence: A Comparison of Self-Rated Score and Actual Performance

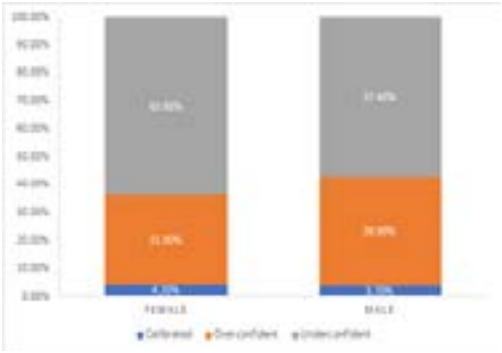
Table 7: Descriptive Comparison of Actual Score and Normalized Self-Rated Score Across Gender

Metric	Actual Score (Female)	Actual Score (Male)	Normalized Score (Female)	Normalized Score (Male)	Interpretation
N	72	54	72	54	-
Mean ($\bar{X}$)	2.181	2.148	1.792	2.011	Females scored slightly higher in actual performance, but rated themselves lower than males. This suggests a confidence gap: females may underestimate their financial literacy.

SD	0.893	1.106	0.623	0.648	Males show more variability in both actual and self-rated scores. Female responses are more consistent/clustered.
Skewness	-0.856	-0.913	-0.283	-0.744	All distributions are left-skewed (more high scores), especially for males in actual and self-rated scores. Female self-rating is closer to normal (less skewed), indicating more moderate self-assessments.
Std. Error of Skewness	0.283	0.325	0.283	0.325	-

Source: Primary Survey

For testing the last hypothesis, comparison of actual financial literacy scores with normalized self-rated ratings shows that men and women have different financial literacy confidence, as illustrated in Table 7. Men and women performed similarly on the assessment [$\bar{X}$ = 2.181 (females) vs. 2.148 (males)]; however, women evaluated their confidence lower ($\bar{X}$ = 1.792) than males ($\bar{X}$=2.011). Additionally, skewness values support this. The left-skewed scores for both genders (male: -0.913, female: -0.856) suggest a successful group. However, female self-rated scores were less skewed (-0.283) than male scores (-0.744), indicating that females are better at self-assessment. This pattern reflects the commonly reported "confidence gap," whereby men tend to rate their financial competence higher than women, irrespective of actual ability (Cupák et al., 2021; Ford, 2021). This aligns with previous studies (e.g., Bucher-Koenen et al., 2021; Lusardi & Mitchell, 2014) and confirms the growing evidence of underconfidence in women. Additionally, males demonstrate greater standard deviation and skewness, indicating that their performance and self-perception patterns are more polarized compared to females.



Source: Primary Survey
Figure 4: Patterns of Confidence (%) Across Gender

The percentage of respondents classified for confidence measurement is depicted in Figure 4, which is based on their self-rated score (normalized) and actual performance in the big three. As illustrated in the graph, females are underconfident about their financial understanding at a rate of 63.90 percent, while males are at 57.40 percent. On the other hand, males tend to exaggerate their financial literacy more than females. In fact, 38.90 percent of males scored below their self-rated score, while 31.90 percent of

females exhibited overconfidence. When calibrated correctly, 4.20 percent of females and 3.70 percent of males functioned satisfactorily. The aggregate assessment indicates that the majority of both men and women are underconfident, and a significant number of them are overconfident. Consequently, this investigation recommends a policy that is well-defined and is founded on financial expertise, which includes the development of confidence.

Table 8: Chi-Square Analysis of Gender Differences in Confidence

N	χ^2	df	p	Interpretation
126	0.655	2	0.721	No statistically significant difference in confidence calibration by gender

Source: Primary Survey

Table 8 shows the statistical result of independent chi-square analysis applied on data to check whether there is any association exist between gender and confidence classification (overconfident, underconfident, calibrated) or not. While males show overconfident and females show undeconfidence according to descriptive statistics Chi-square findings $\chi^2(2, N = 126) = 0.66$, $p = .721$ confirmed that there is no association between gender and confidence classification. These findings shows that confidence inconsistency is not only gender-based supported with study by Vallianatos and Nyhus (2022) which says that financial self-efficacy issues are not demographically restricted.

Policy Implications of the Study

This study suggests that financial education programs in Punjab should focus on confidence calibration components as well as conceptual and factual knowledge. Policy should specifically target women, who underestimate their abilities due to cultural or gender bias. The existing literature also suggests including metacognitive training into FL programs to enhance financial and self-awareness as well as decision-making (Furrebøe & Nyhus, 2022; Lusardi & Mitchell, 2014).

Limitations of the Study

While this study offers valuable insights into gendered patterns of financial literacy, some limitations are also there, due to time and funding restrictions that must be acknowledged.

This study used purposive sampling to ensure the respondents' inclusion who possessed a minimum qualification (undergraduate). This can limit the generalizability of the study.

The self-reported data, particularly the self-rated question, may be influenced by social desirability bias in the study.

The data were collected online, which may have left out respondents with poor digital access or knowledge. However, online self-administered responses help spread the questionnaire more widely across the Punjab state.

These limitations are the product of methodological choices designed to ensure analytical clarity, feasibility, and focus, not flaws. The rigorous "Big Three" methodology ensures global literature comparability, and the focus on graduates targets a vital yet understudied group. These limitations also lay the groundwork for future study by using qualitative follow-ups, experimental designs, and different demographics.

Conclusion

Men and women in Punjab, India who had graduated from college were compared in financial literacy, confidence, and status perceptions in this study. Gender did not affect financial literacy, self-rated confidence, or calibration categories, contrary to previous research (Lusardi & Mitchell, 2014). Key indicators showed little gender variance in, independent samples t-tests, and chi-square tests. Regional India's gender gap in financially literate behavior may be reducing due to higher education and financial knowledge (RBI, 2024). The lack of valuable data may suggest that all things are equal, but this is a crucial addition to financial literacy study, especially in impoverished nations. Women and men who are overconfident should be studied worldwide, even though they are not statistically significant. We need a larger, more diversified sample and more advanced modeling methods like PLS-SEM to study the fundamental variables and mediating factors. The campaign promotes financial literacy and local data.

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