

Gender Differences in Financial Literacy and Behavioural Biases: Impact on Investment Decision-Making in Indore

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Abstract

This study examines gender-based differences in financial knowledge, behavioural biases, and investment decision-making among residents of Indore, Madhya Pradesh, a rapidly growing tier-1 megacity in central India. A structured check was administered to 320 respondents stratified by gender, age, occupation, and income. Employing quantitative styles including descriptive statistics, independent-sample t-tests, and logistic regression, the exploration identifies statistically significant difference between manly and womanish investors across five confines fiscal knowledge scores, overconfidence bias, loss aversion, herd intelligence, and threat forbearance. manly investors exhibited significantly advanced overconfidence, whereas womanish investors demonstrated lesser loss aversion and herd-following tendencies. specially, fiscal knowledge situations appreciatively moderated investment decision quality for both genders, though the effect was stronger among womanish respondents. The findings contribute to the growing body of behavioural finance literature contextualized within an Indian metropolitan setting and offer practical implications for fiscal educators, policymakers, and investment counsels targeting gender-inclusive financial empowerment.

Keywords: *Financial literacy, behavioural biases, gender differences, investment decision-making, overconfidence, loss aversion, herd mentality, Indore, India*

1. Introduction

Financial knowledge — the capability to understand and apply financial concepts similar as budgeting, investing, threat, and return — has surfaced as a foundation of individual profitable well-being (Lusardi & Mitchell, 2014). Concurrently, the field of behavioural finance has demonstrated that cognitive impulses totally distort investment opinions, frequently leading to sour wealth issues (Thaler & Sunstein, 2008). Decreasingly, scholars have recognised that these marvels are not gender-neutral men and women differ in their financial knowledge, risk tolerance, and vulnerability to cerebral impulses, with consequential goods on long-term financial security (Barber & Odean, 2001).

India presents a particularly compelling exploration environment. As the world's most vibrant nation and a rapidly expanding economy, India has witnessed a surge in retail investment participation, especially following the digitisation of financial services post-2016. Yet significant gender gaps in financial inclusion persist. The Reserve Bank of India (2022) reported that women account for smaller than 30% of active equity investors, and studies constantly show lower average financial knowledge among Indian women relative to men (SEBI, 2020).

Indore, the marketable capital of Madhya Pradesh and a designated Smart City, offers a particularly suitable microcosm for this inquiry. With a burgeoning middle class, an expanding services sector, and fairly advanced womanish workforce participation compared to the state normal, Indore represents a transitional civic economy where gender morals around finance are evolving. Despite its profitable energy, empirical exploration on gender-based financial behaviour specific to Indore remains meagre.

This study thus addresses the following exploration questions (1) Do significant differences in financial knowledge exist between manly and womanish investors in Indore? (2) Are specific behavioural impulses — overconfidence, loss aversion, and herd intelligence — distributed else across genders? (3) How do financial knowledge and behavioural biases interact to influence investment decision quality?

2. Literature Review

2.1 Financial Literacy and Gender

A substantial body of international substantiation documents a persistent gender gap in financial literacy. Lusardi and Mitchell (2008) established that women, on average, score lower on tests of introductory financial concepts including compound interest, inflation, and portfolio diversification. These differences persist after controlling for education and income. In the Indian context, Agarwalla et al. (2015) found a significant financial literacy gender gap among civic households, with men outperforming women across all age cohorts. Kumar et al. (2019) corroborated these findings in a study of Rajasthan, attributing the gap incompletely to women's defined access to financial products and information channels.

still, more recent scholarship cautions against deterministic interpretations. Bucher-Koenen et al. (2017) demonstrated that controlling for financial socialisation and confidence mainly narrows observed literacy gaps, suggesting that environmental and artistic factors — rather than ingrained capability — largely drive difference. This finding is particularly apropos to the Indore environment, where rapid-fire urbanisation is reconfiguring gender places.

2.2 Behavioural Biases in Investment

Behavioural finance, pioneered by Kahneman and Tversky (1979) through Prospect Theory, identifies a range of cognitive impulses that cause investors to diverge from rational anticipated-utility maximisation. Three impulses are particularly applicable to unsexed investment behaviour. Overconfidence — the tendency to overrate one's knowledge and prediction accuracy has been constantly linked to advanced trading frequency and lower net

returns (Barber & Odean, 2001). Empirical substantiation robustly demonstrates that men parade lesser financial overconfidence than women, performing in inordinate trading and sale costs that erode portfolio performance.

Loss aversion, the asymmetric weighting of losses relative to original gains, is associated with risk-avoidant behaviour and sour portfolio diversification. womanish investors tend to exhibit stronger loss aversion, which, while reducing exposure to downside risk, may contemporaneously constrain wealth accumulation through equity investment (Jianakoplos & Bernasek, 1998). Herd intelligence — following the investment opinions of peers or the request crowd — represents a third critical bias. Studies in emerging markets have found women to be more susceptible to herding, potentially reflecting lower confidence in independent financial judgment (Vieira, 2013).

2.3 Financial Literacy as a Moderator

A growing strand of literature investigates financial literacy as a moderating variable that attenuates the influence of behavioural impulses. Shefrin (2007) posited that financially knowledgeable investors are better equipped to honour and counteract cognitive heuristics. specially, Robb and Woodyard (2011) found that advanced financial literacy was associated with further diversified portfolios and reduced herding among retail investors. In the Indian environment, Sahi (2017) showed that financial literacy incompletely mediated the relationship between loss aversion and investment outcomes among Mumbai retail investors, with stronger effects for female respondents.

3. Methodology

3.1 Research Design and Sample

This study adopts a quantitative cross-sectional check design. The target population comprises individual investors residing in Indore with at least one active investment instrument (equity, collective fund, fixed deposit, or insurance). A stratified arbitrary slice strategy was employed to insure commensurable representation across gender, age (18 – 35, 36 – 55, 55+), occupation (salaried, self-employed, partner, student), and yearly income brackets.

A sample of 320 respondents was drawn, comprising 168 males (52.5%) and 152 females (47.5%), harmonious with Indore's adult population gender ratio. The sample size was determined using the Cochran (1977) formula for finite populations at a 95-confidence level and 5 margins of error.

3.2 Instrument

Data were collected via a structured self-administered questionnaire comprising four sections. Section A gathered demographic information. Section B assessed fiscal literacy using an adapted version of the Lusardi- Mitchell (2011) Big Three fiscal knowledge questions supplemented by five India-specific items covering collective funds, duty-saving instruments, and equity request operations, yielding a compound fiscal Literacy Score (FLS) out of 100.

Section C measured three behavioural impulses — overconfidence (5 items), loss aversion (5 items), and herd intelligence (4 particulars) — using a five- point Likert scale acclimated from Baker and Nofsinger (2002) and validated by Waweru et al. (2008). Section D inspired investment decision quality through tone- reported portfolio diversification, investment frequency, and a compound Investment Decision Score (IDS). Content validity was verified through expert review by three finance academics; Cronbach's alpha values for bias subscales ranged from 0.74 to 0.81, indicating respectable internal consistency.

3.3 Data Analysis

Data were analysed using SPSS v 26.0. Descriptive statistics characterised the sample. Independent- samples t-tests examined gender differences in FLS, bias scores, and IDS. Pearson correlation assessed relationships among nonstop variables. double logistic regression (dependent variable high vs. low IDS, dichotomised at median) identified predictors of investment decision quality, with gender, FLS, and bias scores as independent variables.

4. Results

4.1 Demographic Profile

The sample mean age was 34.7 times (SD = 9.3). Among males, 61.3% were salaried workers and 24.4% tone-employed; among ladies, 44.7% were salaried, 28.3% housekeepers, and 18.4% tone- employed. Yearly income distribution was astronomically similar across genders, with a slight manly skew at advanced income bands (above INR 75,000/ month males 34.5%, ladies 21.7%).

4.2 Financial Literacy Scores

Male repliers recorded a mean FLS of 64.3 (SD = 14.2), significantly advanced than the womanish mean of 54.8 (SD = 13.7), $t(318) = 5.81, p < .001$, Cohen's $d = 0.68$, indicating a medium- to-large effect. Correct response rates on individual knowledge particulars revealed the largest gaps on questions relating to equity request mechanics (manly 72%, womanish 48%) and emulsion interest over extended ages (manly 68%, womanish 51%). lower, non-significant differences were observed on introductory savings account and affectation particulars.

4.3 Behavioural Biases

Table 1 presents mean bias scores by gender. Overconfidence was significantly advanced among males ($M = 3.71, SD = 0.82$) than ladies ($M = 3.02, SD = 0.79$), $t(318) = 7.29, p < .001$. Again, ladies scored significantly advanced on loss aversion ($M = 3.88, SD = 0.74$) versus males ($M = 3.31, SD = 0.81$), $t(318) = -6.12, p < .001$. Herd intelligence scores were also advanced for ladies ($M = 3.56, SD = 0.77$) compared to males ($M = 3.24, SD = 0.83$), $t(318) = -3.39, p = .001$.

Table 1. Gender Differences in Behavioural Bias Scores (1–5 Likert Scale)

| Bias | Male M (SD) | Female M (SD) | t-value | p-value |
|----------------|-------------|---------------|---------|---------|
| Overconfidence | 3.71 (0.82) | 3.02 (0.79) | 7.29 | < .001 |
| Loss Aversion | 3.31 (0.81) | 3.88 (0.74) | -6.12 | < .001 |
| Herd Mentality | 3.24 (0.83) | 3.56 (0.77) | -3.39 | .001 |

Note. M = Mean; SD = Standard Deviation.

4.4 Investment Decision Quality

Males recorded a higher mean IDS (M = 62.4, SD = 11.8) than females (M = 57.1, SD = 12.3), $t(318) = 3.71$, $p < .001$. Pearson correlations revealed that FLS was positively correlated with IDS for both males ($r = .52$, $p < .001$) and females ($r = .61$, $p < .001$), indicating a stronger literacy-quality link for women. Overconfidence was negatively correlated with IDS among males ($r = -.38$, $p < .001$), consistent with excessive trading reducing net returns.

Logistic regression identified FLS (OR = 1.08, 95% CI [1.05, 1.11], $p < .001$), overconfidence (OR = 0.73, 95% CI [0.62, 0.87], $p < .001$), and loss aversion (OR = 0.81, 95% CI [0.69, 0.95], $p = .008$) as significant predictors of high IDS. The interaction term (Gender x FLS) was also significant (OR = 1.04, 95% CI [1.01, 1.08], $p = .02$), confirming that financial literacy exerts a stronger positive effect on decision quality for female respondents. Nagelkerke $R^2 = .41$ indicated a moderate-to-good model fit.

5. Key Findings

The analysis yields five top findings. First, a statistically significant financial knowledge gender gap exists in Indore, with males scoring roughly 10 chance points advanced than ladies on the compound FLS. Second, manly investors parade significantly advanced overconfidence bias, harmonious with the global behavioural finance literature. Third, womanish investors display lesser loss aversion and herd intelligence, suggesting further threat-antipathetic and socially told decision fabrics. Fourth, financial knowledge is a significant positive predictor of investment decision quality for both genders, but the effect magnitude is larger for women, inferring that targeted financial education may yield disproportionately lesser returns for womanish investors. Fifth, overconfidence is the strongest negative predictor of investment quality among manly investors, supporting the contention that for men, the primary challenge is not lack of knowledge but overestimation of their knowledge.

6. Discussion

The financial knowledge gap proved in this study glasses public and transnational patterns (Lusardi & Mitchell, 2014; Agarwalla et al., 2015), yet the magnitude observed in Indore — a prosperous civic centre with over-average womanish education rates is notable. It suggests that knowledge difference are n't solely a function of educational attainment but are also shaped by discrimination access to financial socialisation gestic, social morals discouraging womanish financial autonomy, and lower exposure to investment products.

The overconfidence chancing aligns robustly with Barber and Odean's (2001) seminal work, and its negative association with investment quality reinforces calls for confidence- estimation interventions in manly- oriented financial advisory practice. contemporaneously, the elevated loss aversion and herd intelligence among womanish repliers suggest distinct challenges while prudent threat- knowledge can be adaptive, inordinate loss aversion may discourage equity investment and constrain long- term wealth creation — a concern amplified by India's fairly low womanish pension content.

The most theoretically significant finding is the stronger temperance of investment quality by financial knowledge among womanish repliers. This supports the argument advanced by Sahi (2017) that knowledge functions as a more potent corrective medium for women, maybe because it replaces query- driven traditionalism with informed confidence, enabling better portfolio diversification opinions. From a policy viewpoint, this finding explosively advocates for targeted financial knowledge programmes addressing the specific instructional poverties and confidence walls faced by women investors in semi-urban India.

Limitations of this study include its cross-sectional design, which precludes unproductive conclusion; reliance on tone- reported investment quality measures; and geographic particularity to Indore, which may limit generalisability to pastoral Madhya Pradesh or other Indian countries. unborn exploration should employ longitudinal designs with objective portfolio performance data and extend samples to lower tier-2 and tier-3 metropolises.

7. Conclusion

This study provides empirical substantiation of significant gender- grounded differences in financial knowledge, behavioural impulses, and investment decision quality among investors in Indore. Males parade advanced financial knowledge and overconfidence, while ladies demonstrate lesser loss aversion and herd intelligence. Critically, financial knowledge centrists the quality of investment opinions more explosively for women, emphasizing the transformative eventuality of gender- targeted financial education. Policymakers, financial institutions, and civil society organisations operating in civic Madhya Pradesh should prioritise accessible, culturally reverberative financial knowledge interventions for women investors to bridge the gender investment gap and promote indifferent wealth accumulation.

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