



Behavioural Biases and Gold Investment Decisions: An Empirical Analysis of Retail Investors in Rohilkhand Region, India

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Abstract

This empirical study investigates the behavioural determinants of gold investment decisions among retail investors in the Rohilkhand region of Uttar Pradesh, India. Drawing upon behavioural finance theories, the research aims to quantify the prevalence and impact of psychological biases—specifically **loss aversion, overconfidence, herding, and mental accounting**—on gold allocation and trading behaviour. A structured survey of **400 retail investors** across Bareilly, Moradabad, Rampur, Bijnor, and Pilibhit was conducted, complemented by **30 semi-structured interviews** for deeper contextual understanding. Statistical techniques including descriptive analysis, exploratory factor analysis (EFA), regression modelling, and structural equation modelling (SEM) were employed to examine the relationships between behavioural biases, demographic characteristics, and investment outcomes. The findings indicate that gold constitutes, on average, **38% of household wealth**, with jewellery dominating investment forms. Loss aversion and mental accounting emerged as the strongest predictors of allocation decisions, while overconfidence was more strongly associated with trading frequency than portfolio composition. Herding behaviour was evident in collective purchases during festivals and price rallies, reflecting both social conformity and cultural traditions. The study provides empirical evidence of how biases interact with socio-cultural factors to shape retail investment patterns in semi-urban India. It contributes to behavioural finance literature by offering region-specific insights and proposes targeted financial literacy interventions, digital decision-support tools, and community-level programmes to mitigate irrational investment behaviour while respecting cultural values.

Keywords: Gold investment, behavioural finance, retail investors, loss aversion, overconfidence, herding, mental accounting, empirical study, Rohilkhand, India

1. Introduction

Gold has historically held a central role in Indian society, functioning not only as a financial asset but also as a deeply embedded cultural and social symbol. Across generations, Indian households have relied on gold to provide both

economic security and social prestige, integrating it into rituals, dowries, and festive traditions (Choudhary & Khanna, 2017; World Gold Council, 2022). In the Indian context, gold is often perceived as more than an investment—it is a **multidimensional asset** that embodies wealth, identity, and resilience against uncertainty. Despite rapid modernisation and the increasing availability of financial instruments such as equities, mutual funds, and digital gold products, gold continues to dominate household portfolios, especially in semi-urban and rural regions (RBI, 2021).

Classical finance theories, rooted in the Efficient Market Hypothesis (Fama, 1970), assume that investors behave rationally, optimising portfolios based on risk-return trade-offs. However, empirical evidence increasingly demonstrates that **real-world decision-making is influenced by psychological biases and cognitive shortcuts** (Kahneman & Tversky, 1979; Shefrin & Statman, 1985). These insights gave rise to the field of **behavioural finance**, which explores how emotions, heuristics, and social dynamics affect financial decisions. In the context of gold, behavioural factors may be even more influential given its dual role as both an investment and a cultural commodity (Baur & Lucey, 2010; Dhar & Verma, 2017).

The **Rohilkhand region** of Uttar Pradesh presents a particularly valuable case for empirical investigation. Encompassing districts such as Bareilly, Moradabad, Rampur, Bijnor, and Pilibhit, this semi-urban region has witnessed rapid socio-economic transformation in recent decades, marked by urbanisation, rising incomes, and shifting consumer aspirations (Government of Uttar Pradesh, 2021). Yet financial literacy remains uneven, and participation in formal capital markets is relatively limited compared to metropolitan areas (RBI, 2021). As a result, gold continues to be the primary vehicle for wealth storage and investment, making it an ideal context for examining the interaction between behavioural biases and financial decisions.

This study applies a behavioural finance lens to empirically assess how four major biases—**loss aversion, overconfidence, herding, and mental accounting**—influence gold investment behaviour among retail investors in Rohilkhand. Each of these biases has been widely discussed in the behavioural finance literature. **Loss aversion**, a core tenet of prospect theory, suggests that investors fear losses more than they value equivalent gains, often leading to reluctance in selling assets at a perceived loss (Kahneman & Tversky, 1979). **Overconfidence** leads individuals to overestimate their predictive abilities, resulting in excessive trading and under-diversified portfolios (Barber & Odean, 2001). **Herding behaviour**, or the tendency to imitate the decisions of others, is particularly salient in visible and socially symbolic assets such as gold (Bikhchandani et al., 1992; Conrad & Kraus, 2013). Finally, **mental accounting** refers to the compartmentalisation of wealth into separate mental “buckets,” often resulting in inefficient allocation (Thaler, 1999).

By focusing on Rohilkhand, this study addresses a **critical research gap**. Much of the existing behavioural finance literature on gold is global or national in scope, with limited attention to region-specific dynamics in semi-urban India. Previous research has highlighted behavioural biases in Indian equity and commodity markets (Wahab & Simon, 2017; Kumar & Jain, 2023), yet few studies have explored how these biases manifest in gold investment, particularly in areas where cultural traditions and financial literacy intersect in unique ways. This paper therefore provides both **theoretical contributions**—by extending behavioural finance theories to a semi-urban, culturally embedded setting—and **practical contributions**, by offering insights for financial literacy initiatives, advisory services, and policy frameworks.

The objectives of this study are fourfold:

1. To measure the prevalence of key behavioural biases—loss aversion, overconfidence, herding, and mental accounting—among retail gold investors in Rohilkhand.

2. To assess how these biases predict the percentage of wealth allocated to gold and the frequency of trading.
3. To explore the moderating role of demographic and socio-cultural factors, such as age, gender, income, and traditions, in shaping investment behaviour.
4. To develop policy and advisory recommendations tailored to the region's behavioural and cultural context.

In pursuing these objectives, the study employs a **mixed-methods design**, integrating quantitative survey data with qualitative insights. Statistical tools such as regression and SEM provide robust empirical validation, while interviews capture the **nuances of cultural and emotional narratives** surrounding gold. The integrated approach ensures that the findings are not only statistically significant but also contextually meaningful.

This introduction sets the stage for a detailed exploration of behavioural biases in gold investment within Rohilkhand. The subsequent sections provide a review of literature, outline the methodology, present results and analysis, and discuss the broader implications for theory, policy, and practice.

2. Literature Review

The review of literature for this empirical study is organised into six broad sections: (a) behavioural finance and its divergence from classical theory, (b) prospect theory and loss aversion, (c) overconfidence bias, (d) herding behaviour, (e) mental accounting, and (f) demographic and contextual factors. These theoretical underpinnings provide the foundation for empirical investigation in the Rohilkhand region.

2.1 Behavioural Finance and the Departure from Classical Finance Theories

The foundations of modern finance rest on the **Efficient Market Hypothesis (EMH)**, which posits that financial markets incorporate all available information, rendering prices efficient (Fama, 1970). Within this framework, investors are rational agents who optimise portfolios according to **risk-return trade-offs** (Markowitz, 1952). However, decades of empirical anomalies challenged the universality of EMH, paving the way for behavioural finance (Thaler, 1999; Barberis, 2018).

Behavioural finance integrates **psychology and decision sciences** into financial analysis, arguing that investors often rely on heuristics that systematically deviate from rationality (Kahneman, 2011). Research has shown that biases such as **loss aversion, mental accounting, overconfidence, and herding** can shape financial outcomes, producing predictable “irrational” patterns (Statman, 2019; Shiller, 2020).

In the context of India, behavioural finance has gained prominence due to the interplay of **traditional wealth practices, uneven financial literacy, and rapid financialisation** (Wahab & Simon, 2017). Gold, in particular, embodies this intersection, serving both as a financial hedge and as a socio-cultural symbol. Thus, the departure from classical finance theory is not merely academic but also crucial for understanding household financial behaviour in semi-urban regions like Rohilkhand.

2.2 Prospect Theory and Loss Aversion

Kahneman and Tversky's (1979) **prospect theory** remains a cornerstone of behavioural finance. It proposes that individuals evaluate gains and losses relative to a reference point rather than in absolute terms, with losses carrying

nearly **twice the psychological weight of equivalent gains**. This leads to **loss aversion**, a bias that manifests in reluctance to sell underperforming assets or excessive preference for safe-haven instruments.

In equity and commodity markets, loss aversion explains the **disposition effect**—investors tend to sell winning assets too early while holding onto losing ones (Shefrin & Statman, 1985). Applied to gold, this bias translates into a “**buy-and-hold**” **mentality**, where investors cling to their holdings even during downturns, waiting for prices to rebound (Barberis & Huang, 2001). Empirical evidence from emerging markets highlights that loss-averse investors often overweight tangible, low-risk assets such as gold, perceiving them as safe against inflation and currency fluctuations (Baur & Lucey, 2010; Kumar & Jain, 2023).

Loss aversion is particularly pronounced in semi-urban Indian contexts, where households lack exposure to diversified financial instruments and rely heavily on gold for **intergenerational wealth preservation** (Dhar & Verma, 2017). This theoretical grounding justifies Hypothesis 1 (H₁) in the present study: that higher loss aversion predicts greater gold allocation.

2.3 Overconfidence Bias

Overconfidence refers to investors’ tendency to overestimate their predictive abilities, often leading to excessive trading and under-diversification (Barber & Odean, 2001). It manifests in three main forms: **miscalibration of knowledge, illusion of control, and better-than-average effects** (Glaser & Weber, 2007).

Empirical studies consistently show that overconfident investors engage in **frequent trading** despite underperforming in the long run due to higher transaction costs (Statman, 2019). In volatile markets such as gold, overconfidence may cause investors to mistime entry and exit points, buying during peaks and selling during downturns (Wan & Pan, 2007).

In India, younger and higher-income investors often display overconfidence, driven by increased exposure to **digital trading platforms and social media advice** (Kumar & Jain, 2023). Within semi-urban regions, overconfidence may also stem from **community-based narratives** about price trends, amplified by peer discussions. Accordingly, Hypothesis 2 (H₂) predicts that overconfidence will be positively associated with trading frequency in gold markets.

2.4 Herding Behaviour

Herding is the tendency of investors to **imitate others’ decisions**, particularly under uncertainty (Bikhchandani et al., 1992). It is often explained through **informational cascades**, where individuals defer to perceived collective wisdom rather than independent analysis.

In commodity and ETF markets, herding has been linked to the amplification of price bubbles, as simultaneous buying during rallies leads to short-lived but sharp surges (Conrade & Kraus, 2013; Choe et al., 1999). Gold, with its **high visibility and social signalling value**, is especially prone to herding. Purchases often cluster around festivals (e.g., Diwali, Akshaya Tritiya) and weddings, reflecting both cultural traditions and community-level influence (World Gold Council, 2022).

Studies in India confirm that middle-income households are particularly vulnerable to herding, as they balance aspirations with social conformity (Dhar & Verma, 2017). Hypothesis 3 (H₃) in this study posits that higher herding propensity increases the likelihood of buying gold during rallies.

2.5 Mental Accounting

Thaler (1999) introduced the concept of **mental accounting**, where individuals categorise money into separate “accounts,” often ignoring overall portfolio optimisation. In the case of gold, households frequently treat it as a **distinct, risk-free bucket**, separate from financial instruments like equities or bonds (Prelec& Loewenstein, 1998).

Empirical studies in India confirm that gold is often segregated into “**jewellery accounts**”, maintained for security, dowries, or social obligations, regardless of broader financial planning (Dhar & Verma, 2017). Such compartmentalisation undermines diversification and perpetuates an over-allocation to gold (Statman, 2019).

For Rohilkhand, where cultural traditions strongly valorise gold, mental accounting is expected to play a significant role in shaping investment behaviour. Hypothesis 4 (H₄) asserts that stronger mental accounting will moderate the relationship between risk tolerance and diversified allocations, weakening diversification tendencies.

2.6 Demographic and Contextual Factors

Demographics such as **age, gender, income, and education** influence the extent to which behavioural biases affect decisions. For example, younger investors tend to display higher overconfidence (Barber &Odean, 2001), while older investors exhibit stronger loss aversion (Christelis et al., 2010). Women in India are often custodians of family gold, reinforcing cultural patterns of allocation (World Gold Council, 2022).

Contextual factors such as **financial literacy, cultural traditions, and social norms** further moderate biases. In semi-urban India, limited access to capital markets amplifies reliance on heuristics, while rituals such as weddings and festivals institutionalise gold purchases regardless of price (RBI, 2021; Kumar & Jain, 2023). Thus, studying the Rohilkhand region provides a rich empirical setting to explore how behavioural and contextual factors interact.

2.7 Identified Research Gaps

While global literature has extensively documented behavioural biases, gaps remain in their application to **gold investment in semi-urban Indian contexts**. Few empirical studies systematically integrate **quantitative modelling and qualitative narratives** to understand region-specific behaviour. Further, policy implications for financial literacy programmes tailored to gold investors remain underdeveloped. This study addresses these gaps by combining robust empirical analysis with contextual insights from Rohilkhand.

Table 2.1: Key Behavioural Biases and Implications for Gold Investment

Bias	Definition	Manifestation in Gold Investment	Key References
Loss Aversion	Preference to avoid losses over equivalent gains	Reluctance to sell gold during downturns; overweighting gold in portfolios	Kahneman & Tversky (1979); Barberis&Huang (2001)
Overconfidence	Overestimation of predictive ability	Excessive trading; mistimed entry/exit decisions	Barber &Odean (2001); Glaser & Weber (2007)
Herding	Copying others’ decisions	Buying during rallies, clustering around festivals	Bikhchandani et al. (1992); Conrade& Kraus (2013)

Mental Accounting	Categorising wealth into “mental buckets”	Treating gold as a “safe” account, undermining diversification	Thaler (1999); Dhar & Verma (2017)
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3. Research Methodology

3.1 Research Paradigm and Approach

The methodological framework of this study is rooted in **behavioural finance**, which emphasises the psychological underpinnings of financial decision-making (Statman, 2019; Shiller, 2020). Given the complex interplay of cultural, emotional, and economic factors in gold investing, a **mixed-methods approach** was deemed most appropriate. Specifically, the study employed a **sequential explanatory design** (Creswell & Plano Clark, 2018), wherein the **quantitative phase** (survey of 400 respondents) was followed by a **qualitative phase** (30 in-depth interviews).

This design allowed the researcher to first measure and model the prevalence of behavioural biases and their impact on gold allocation, then explore the **“why” behind the numbers** through personal narratives. Such integration provides methodological triangulation, ensuring both breadth (statistical generalisation) and depth (contextual understanding).

3.2 Research Design

The study employed a **cross-sectional survey design**, which is suitable for examining attitudes and behaviours at a specific point in time (Bryman, 2016). Surveys were supplemented by semi-structured interviews to capture nuanced rationales. The design was justified by two considerations:

1. Gold investment is a relatively stable phenomenon, with long holding durations, making a snapshot approach appropriate.
2. The cross-sectional structure permits robust statistical modelling while keeping costs manageable.

The qualitative phase enriched the survey findings by **unpacking cognitive and cultural drivers**, addressing the limitation of purely quantitative approaches that risk overlooking embedded meanings (Braun & Clarke, 2006).

3.3 Study Area: Rohilkhand Region

The study was conducted in **Rohilkhand**, comprising the districts of Bareilly, Moradabad, Rampur, Bijnor, and Pilibhit. This region provides a unique empirical setting due to its **blend of urbanising towns and semi-rural hinterlands**, with distinct cultural and economic characteristics.

- **Socio-economic profile:** Rohilkhand exhibits rapid growth in disposable incomes, yet financial inclusion lags behind urban centres (Government of Uttar Pradesh, 2021).
- **Cultural traditions:** Gold plays a central role in weddings, dowries, and festivals, embedding investment decisions in cultural obligations (World Gold Council, 2022).
- **Financial literacy:** RBI (2021) reports uneven financial literacy, particularly among rural households, amplifying reliance on heuristics.

Studying this region therefore helps illuminate **how behavioural biases manifest where cultural traditions meet rising incomes but limited financial awareness**.

3.4 Population and Sampling

The target population consisted of **retail investors in gold** residing in the five districts. Institutional investors and professional traders were excluded, as their behaviour is shaped by formal training and market sophistication.

A **stratified random sampling technique** was employed to ensure representation across key demographics:

- **Age groups** (18–30; 31–50; 51+)
- **Gender** (male, female)
- **Income brackets** (<₹5 lakh; ₹5–10 lakh; >₹10 lakh)

The total sample size for the survey was **400 respondents**, complemented by **30 purposively selected interviewees** for the qualitative phase. This size aligns with recommendations for factor analysis and regression modelling (Hair et al., 2019).

Table 3.1: Sampling Framework

District	Population (approx., lakhs)	Sample Size (n)	% of Total Sample
Bareilly	44.5	100	25%
Moradabad	37.8	90	22.5%
Rampur	23.5	70	17.5%
Bijnor	36.8	80	20%
Pilibhit	20.3	60	15%
Total	—	400	100%

Source: Government of Uttar Pradesh (2021); Author's survey design.

3.5 Data Collection Methods

Two primary data collection instruments were used:

1. **Survey Questionnaire:** A structured 40-item questionnaire was administered face-to-face by trained field researchers at **community centres, jewellery stores, and financial literacy camps**. Sections included:
 - Demographics (age, gender, education, income, occupation).
 - Gold investment details (allocation, form of gold, duration, trading frequency).
 - Behavioural biases measured on Likert scales.
2. **Semi-Structured Interviews:** Conducted with 30 participants purposively selected to reflect diverse demographics. Key probes explored:
 - Emotional meanings of gold.
 - Influence of peers, family, and media.
 - Experiences of regret or panic decisions.
 - Views on selling decisions and portfolio diversification.

All interviews were audio-recorded (with consent), transcribed, and thematically coded.

3.6 Instruments and Measurement

The behavioural biases were measured using validated scales adapted to the Indian gold investment context:

- **Loss Aversion:** Adapted from Tversky & Kahneman (1992), focusing on reluctance to sell gold below purchase price.
- **Overconfidence:** Adapted from Lundeberg et al. (2013), capturing self-rated predictive ability.
- **Herding:** Based on Lakonishok et al. (1992), measuring susceptibility to peer/family influence.
- **Mental Accounting:** Adapted from Prelec & Loewenstein (1998), reflecting segregation of gold from other assets.

Each scale consisted of 4–6 items rated on a **5-point Likert scale (1 = strongly disagree; 5 = strongly agree)**. Reliability and validity were checked via **Cronbach's alpha and Exploratory Factor Analysis (EFA)**.

Table 3.2: Measurement Scales of Behavioural Biases

Construct	No. of Items	Sample Item	Source
Loss Aversion	5	"I prefer holding gold at a loss rather than selling it below purchase price."	Tversky & Kahneman (1992)
Overconfidence	6	"I am confident in predicting gold price movements better than others."	Lundeberg et al. (2013)
Herding	4	"I often buy gold when I see friends, relatives, or neighbours doing so."	Lakonishok et al. (1992)
Mental Accounting	5	"I consider gold as a separate form of wealth, not part of my other investments."	Prelec & Loewenstein (1998)

3.7 Data Analysis Methods

Data were analysed in two stages:

Quantitative Analysis

- **Descriptive statistics** to profile demographics and gold allocation patterns.
- **Reliability analysis (Cronbach's $\alpha \geq 0.70$)** for internal consistency.
- **Exploratory Factor Analysis (EFA)** to validate constructs.
- **Multiple Regression** to test hypotheses regarding biases and allocation.
- **Structural Equation Modelling (SEM)** using AMOS for direct and mediated effects (perceived risk, expected returns).

Qualitative Analysis

- Thematic analysis (Braun & Clarke, 2006) using NVivo software.
- Coding categories: emotional security, social influence, regret narratives, and asset segregation.
- Triangulation with quantitative findings through **joint display tables**.

3.8 Ethical Considerations

The study adhered to ethical norms outlined by Creswell (2018):

- **Informed consent** was obtained from all participants.
- **Confidentiality** of financial information was ensured by anonymising responses.
- Participation was **voluntary**, with the right to withdraw at any stage.
- Interview transcripts were stored securely and used solely for academic purposes.

3.9 Limitations of Methodology

Despite its rigour, the study faced limitations:

- **Self-report bias:** Survey responses may reflect socially desirable answers.
- **Regional specificity:** Findings are not fully generalisable beyond Rohilkhand.
- **Cross-sectional design:** Cannot capture long-term behavioural shifts.

Nevertheless, the triangulated mixed-methods design enhances both reliability and validity.

4. Results and Analysis

4.1 Quantitative Findings

4.1.1 Demographic Profile of Respondents

The survey covered **400 respondents** across five districts of Rohilkhand—Bareilly, Moradabad, Rampur, Bijnor, and Pilibhit. The demographic analysis forms the foundation for interpreting behavioural patterns. Of the total respondents, **54% were male and 46% female**, suggesting a relatively balanced gender composition, consistent with the World Gold Council (2022) report on women’s strong role in household gold ownership. Age distribution showed that **32% belonged to the 18–30 age group, 45% to 31–50 years, and 23% were above 50 years**. This balanced representation across life stages allowed the study to explore age-related differences in behavioural biases.

In terms of income, **41% reported household incomes below ₹5 lakh annually, 37% between ₹5–10 lakh, and 22% above ₹10 lakh**, reflecting a spread across lower-middle to upper-middle income households. Educational attainment indicated that **28% had secondary schooling, 39% were graduates, and 33% postgraduates or higher**, suggesting moderate financial literacy levels, though not uniformly distributed (RBI, 2021).

Occupationally, **38% were salaried employees, 27% self-employed traders, 19% agriculturalists, and 16% homemakers**. Such diversity confirms that gold investing is not confined to any single economic group but cuts across professions. These results align with Dhar and Verma (2017), who found that gold plays a pivotal role in both urban and semi-rural savings behaviour.

Table 4.1: Demographic Profile of Respondents (n = 400)

Variable	Category	Frequency (%)
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Gender	Male	54
	Female	46
Age Group	18–30 years	32
	31–50 years	45
	51+ years	23
Income	< ₹5 lakh	41
	₹5–10 lakh	37
	> ₹10 lakh	22
Education	Secondary or below	28
	Graduate	39
	Postgraduate or higher	33
Occupation	Salaried	38
	Self-employed/traders	27
	Agriculturalists	19
	Homemakers	16

Source: Author's survey (2021).

4.1.2 Descriptive Analysis of Gold Allocation Patterns

The survey revealed that, on average, respondents allocated **38% of household wealth to gold**, significantly higher than the **5–15% range** suggested by portfolio diversification models (Markowitz, 1952; Baur & Lucey, 2010). Gold holdings were skewed towards **jewellery (62%)**, followed by **coins/bars (24%)**, and **digital products such as ETFs/SGBs (14%)**. This reliance on physical forms reflects cultural preferences and trust in tangible assets, a finding supported by Choudhary and Khanna (2017).

Duration of holdings indicated a strong **buy-and-hold orientation: 47% had held gold for more than 10 years, 33% for 3–10 years**, and only **20% for less than 3 years**. Furthermore, **69% of households rarely sold gold**, even during price surges, while just **9% reported frequent buying and selling**. These patterns underscore loss aversion and mental accounting, where gold is preserved as a family asset rather than treated as a tradeable instrument.

Table 4.2: Descriptive Patterns of Gold Investment

Investment Attribute	Category	Frequency (%)
Wealth Allocation	Average % allocation	38%
Form of Gold Held	Jewellery	62
	Coins/Bars	24
	ETFs/SGBs	14
Holding Duration	<3 years	20
	3–10 years	33
	>10 years	47
Trading Frequency	Rare/No Selling	69
	Occasional Selling	22
	Frequent Trading	9

Source: Author's survey (2023).

4.1.3 Reliability and Factor Structure of Behavioural Scales

To validate the behavioural measures, **Cronbach's alpha** was calculated. All scales exceeded the 0.70 threshold (Hair et al., 2019): **loss aversion ($\alpha = 0.81$)**, **overconfidence ($\alpha = 0.76$)**, **herding ($\alpha = 0.79$)**, and **mental accounting ($\alpha = 0.82$)**. Exploratory Factor Analysis (EFA) produced a four-factor solution explaining **67.4% of total variance**, confirming distinctiveness of the constructs.

Loss aversion and mental accounting showed the highest loadings, underscoring their cultural salience. Overconfidence exhibited slightly weaker loadings, reflecting its lower prevalence in semi-urban contexts compared to urban traders (Glaser & Weber, 2007). Herding emerged as distinct, aligning with social pressures and festival-driven purchases (Conrade & Kraus, 2013).

Table 4.3: Reliability and Factor Loadings of Behavioural Scales

Construct	Cronbach's α	Variance Explained (%)	Factor Loadings
Loss Aversion	0.81	18.5	0.63 – 0.82
Overconfidence	0.76	15.7	0.58 – 0.77
Herding	0.79	16.3	0.61 – 0.79
Mental Accounting	0.82	16.9	0.64 – 0.83
Overall (KMO = 0.84; Bartlett's $\chi^2 = 1,256.43$; $p < .001$)	–	67.4 cumulative	–

Source: Author's analysis (2023).

4.1.4 Regression Results (Biases → Allocation)

Multiple regression with gold allocation as the dependent variable yielded an **adjusted R^2 of 0.42**, meaning behavioural biases and demographics explained 42% of variance. Key predictors were:

- **Loss aversion ($\beta = 0.36$, $p < .001$)** → strongest positive predictor.
- **Mental accounting ($\beta = 0.27$, $p < .01$)** → reinforced disproportionate gold allocation.
- **Herding ($\beta = 0.22$, $p < .01$)** → predicted buying during rallies.
- **Overconfidence ($\beta = 0.18$, $p < .05$)** → weaker effect, but stronger on trading frequency.

Table 4.4: Regression Results – Behavioural Biases Predicting Gold Allocation

Predictor	β (Standardised)	p-value	Interpretation
Loss Aversion	0.36	< .001	Strong positive predictor
Overconfidence	0.18	< .05	Weaker effect; drives trading
Herding	0.22	< .01	Predicts rally-driven purchases
Mental Accounting	0.27	< .01	Strong moderating role on diversification

Model Fit	Adj. R ² = 0.42	F = 32.78***	Robust explanatory power
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4.1.5 Structural Equation Modelling (SEM)

SEM analysis confirmed both **direct and mediated effects**. Fit indices ($\chi^2/df = 2.41$, CFI = 0.94, RMSEA = 0.058) indicated good fit. Loss aversion ($\beta = 0.34$) and mental accounting ($\beta = 0.29$) exerted the strongest direct effects. Perceived risk mediated loss aversion's effect, while expected returns mediated overconfidence's effect.

Table 4.5: SEM Results – Path Coefficients and Model Fit

Path	β	p-value	Interpretation
Loss Aversion → Allocation	0.34	< .001	Strong direct effect
Overconfidence → Allocation	0.12	< .05	Weak, mediated via return perception
Herding → Allocation	0.20	< .01	Social cues drive purchases
Mental Accounting → Allocation	0.29	< .01	Strong cultural bias
Loss Aversion → Perceived Risk	-0.26	< .01	Risk perceptions mediate effect
Overconfidence → Expected Returns	0.21	< .05	Inflates optimism
Model Fit	$\chi^2/df=2.41$, RMSEA=0.058	CFI=0.94, Good fit	

4.2 Qualitative Findings

4.2.1 Emotional Security and “Peace of Mind”

A recurring theme from the interviews was the **emotional and psychological security** that gold provides to households. Respondents consistently described gold as a “safety net” during crises, echoing studies by Baur and Lucey (2010) that classify gold as both a hedge and a safe haven. Several participants stated that holding gold gave them “*peace of mind*” when faced with inflation, medical emergencies, or political uncertainty. This sense of emotional stability was particularly pronounced among women, who often viewed gold jewellery not only as wealth but as a source of personal independence and social insurance.

For example, a 42-year-old homemaker in Bareilly shared that during the COVID-19 lockdowns, she “slept peacefully knowing that the family had gold reserves even if cash ran low.” Such narratives confirm the role of gold as a psychological buffer, independent of its financial returns. These findings reflect loss aversion: rather than seeking risky gains, households cling to assets that reduce emotional exposure to loss. This extends the quantitative evidence (Section 4.1.4), showing how **behavioural biases overlap with cultural meanings** in shaping decisions (Kahneman & Tversky, 1979; Dhar & Verma, 2017).

4.2.2 Social Influence: Family, Peers, Jewellers, and Media

Another dominant theme was **herding behaviour shaped by social networks**. Many respondents admitted that they followed cues from family elders, neighbours, and local jewellers when buying gold. For instance, one farmer from

Rampur mentioned, *“I always ask my elder brother when to buy; he has been dealing with jewellers for years, so I trust his word more than the news.”* This illustrates informational cascades, where individuals defer to perceived authority figures (Bikhchandani et al., 1992).

Social media was also cited as an emerging influence, especially among younger respondents (18–30 years). WhatsApp groups and YouTube channels promoting daily gold price updates were frequently mentioned as triggers for buying decisions. However, these cues often reinforced herd behaviour rather than fostering independent judgement. This aligns with Conrade and Kraus (2013), who observed that gold ETFs experience spikes in demand during herd-driven waves. In semi-urban India, these dynamics are further amplified by festivals and weddings, where collective buying is socially expected.

4.2.3 Regret Narratives and Panic Decisions

Interviews revealed strong evidence of **regret aversion and panic behaviour**. Several participants recalled instances of **panic selling** during the pandemic or during sudden price falls. A 35-year-old trader in Moradabad explained, *“I sold gold when the price dropped sharply in 2020, fearing bigger losses, but within weeks, the price went up. I regret that decision to this day.”* Such cases highlight short-termism and emotional reactions, confirming the quantitative finding that overconfident and loss-averse investors often mistime trades (Barber & Odean, 2001; Glaser & Weber, 2007).

In contrast, some households expressed regret over **buying at peaks**, often after following peers. For example, a young IT employee said he purchased significant quantities of gold in August 2020, when prices reached record highs, only to watch values decline. These regret narratives underline the **human cost of behavioural biases**, showing how emotions override rational analysis and leading to suboptimal outcomes.

4.2.4 Mental Segregation of Assets (Mental Accounting)

Perhaps the most striking qualitative theme was the **mental segregation of gold from other wealth categories**. Respondents repeatedly described gold as a **“separate account”** that they would not touch except during major life events (marriage, medical emergencies, or children’s education). A 50-year-old respondent in Bijnor noted: *“We never sell jewellery unless absolutely necessary. Gold is different from savings; it is family wealth, not investment.”*

This confirms Thaler’s (1999) mental accounting framework, where individuals compartmentalise assets into cognitive “buckets.” In this case, gold is categorised as untouchable “safety wealth,” distinct from risky assets such as equities. Even households with higher risk tolerance showed reluctance to rebalance their portfolios, reinforcing the SEM findings (Table 4.5) that mental accounting **directly affects allocation decisions independent of risk-return evaluations**.

4.2.5 Thematic Synthesis

The qualitative themes—**emotional security, social influence, regret behaviour, and mental accounting**—align closely with the four biases modelled quantitatively. However, they also reveal **cultural depth**: gold is not just an economic asset but an artefact of **tradition, identity, and family continuity**. This suggests that behavioural finance theories need contextual adaptation to semi-urban Indian realities.

Table 4.6: Thematic Categories from Interviews (n = 30)

Theme	Illustrative Quote	Behavioural Link
Emotional Security	"I sleep peacefully knowing we have gold reserves." (Female, 42, Bareilly)	Loss Aversion (safety framing)
Social Influence	"I always ask my elder brother when to buy gold." (Male, 45, Rampur)	Herding/Informational cascades
Regret & Panic Decisions	"I sold gold during the drop in 2020, but prices shot back up." (Male, 35, Moradabad)	Regret Aversion; Overconfidence
Mental Segregation of Assets	"Gold is family wealth, not an investment we touch." (Male, 50, Bijnor)	Mental Accounting

Source: Author's interviews (2021).

4.3 Integrated Analysis

4.3.1 Convergence of Quantitative and Qualitative Findings

The integration of results from surveys, regression, SEM, and in-depth interviews reveals significant **convergence between statistical patterns and lived narratives**. For instance, the regression and SEM analyses demonstrated that **loss aversion was the strongest predictor of gold allocation** ($\beta = 0.36$; $p < .001$), a result echoed in interview testimonies where respondents described gold as an emotional anchor providing "peace of mind." Similarly, the **dominance of mental accounting** in the factor analysis ($\alpha = 0.82$) was reinforced qualitatively by repeated references to gold as "*family wealth*" rather than an investment subject to rebalancing.

This convergence validates the theoretical assumptions of behavioural finance while also highlighting the **cultural and symbolic meanings of gold in Rohilkhand households**. The findings suggest that biases such as loss aversion and mental accounting are not merely cognitive errors but culturally embedded heuristics shaped by traditions, festivals, and intergenerational practices.

4.3.2 Divergence Between Data Streams

Despite broad alignment, certain divergences emerged. For example, quantitative data suggested that **overconfidence had only a weak direct effect on allocation** ($\beta = 0.18$), but interviews revealed several **regret narratives linked to overconfident timing decisions**, particularly among younger respondents. These accounts suggest that while overconfidence may not always translate into higher allocation levels, it significantly influences **trading frequency and regret cycles**.

Similarly, regression results indicated that **herding behaviour accounted for modest variation in gold allocation** ($\beta = 0.22$), yet interviews painted a richer picture of **social influence**, showing that festivals, weddings, and community norms acted as powerful triggers for collective purchases. This divergence illustrates the importance of qualitative insights in **contextualising statistical findings**.

4.3.3 Holistic Interpretation

Taken together, the integrated analysis portrays gold investment behaviour in Rohilkhand as a **blend of cognitive biases, cultural identity, and social norms**. Quantitative results provide evidence of statistical significance and predictive power, while qualitative narratives reveal the **why and how** behind these tendencies. For instance:

- **Loss aversion** explains why households hold gold during downturns, but interviews highlight the **emotional comfort** this provides in uncertain times.
- **Overconfidence** is modest in statistical models but emerges as an **emotional driver of regret**, showing its behavioural impact beyond mere allocation.
- **Herding** is measurable in buying patterns during rallies, but qualitatively it extends to **family influence, jewellers, and WhatsApp groups**.
- **Mental accounting** is not just a statistical construct but a **cultural framing of gold as “untouchable family wealth.”**

This synthesis demonstrates that **behavioural finance in semi-urban India must be understood within a socio-cultural ecosystem**, where gold embodies not just investment but also tradition, emotion, and social capital.

4.3.4 Joint Display of Integrated Findings

Table 4.7: Joint Display of Quantitative and Qualitative Results

Behavioural Bias	Quantitative Evidence	Qualitative Evidence	Integrated Insight
Loss Aversion	Strongest predictor of gold allocation ($\beta = 0.36, p < .001$). SEM shows indirect effects via perceived risk.	Respondents described gold as “ <i>peace of mind</i> ” and refused to sell at a loss.	Loss aversion is both financial and emotional, reinforcing long-term holding.
Overconfidence	Weak effect on allocation ($\beta = 0.18$) but stronger effect on trading frequency ($\beta = 0.29$).	Younger respondents recalled <i>regret from mistimed trades</i> .	Overconfidence affects timing behaviour , leading to regret cycles.
Herding	Moderate predictor ($\beta = 0.22, p < .01$).	Families, peers, jewellers, and social media cited as key buying cues .	Herding extends beyond numbers—reflects social traditions and community norms.
Mental Accounting	High reliability ($\alpha = 0.82$) and strong predictor ($\beta = 0.27$).	Gold treated as “ <i>family wealth, not to be touched</i> .”	Mental accounting is culturally embedded; reduces diversification despite high risk tolerance.

Source: Author’s analysis (2021).

4.3.5 Implications of Integrated Findings

The integrated results carry important implications for theory, practice, and policy. For theory, they demonstrate that behavioural finance must account for **cultural framing of assets**. For practice, financial advisors should design strategies

that **reframe biases** without dismissing cultural traditions. For policy, region-specific financial literacy programmes should address not only technical knowledge but also **psychological and social dimensions** of decision-making.

5: Discussion and Recommendations

5.1 Introduction to the Discussion

The results of this study highlight that gold investment behaviour in Rohilkhand is not adequately explained by classical finance theories of risk–return optimisation but is instead deeply rooted in **behavioural biases, cultural traditions, and social influences**. Quantitative analysis revealed that **loss aversion and mental accounting were the strongest predictors of gold allocation**, while overconfidence and herding also played meaningful but differentiated roles. Qualitative interviews enriched these patterns by revealing that gold is perceived not only as an economic asset but also as a **symbol of emotional security, social identity, and intergenerational continuity**.

This chapter integrates these findings with broader behavioural finance theories and offers region-specific recommendations for academics, policymakers, and practitioners.

5.2 Theoretical Implications

The study contributes to behavioural finance by showing that **biases are culturally embedded**, not just cognitive deviations from rationality.

- **Prospect Theory and Loss Aversion:** Kahneman and Tversky’s (1979) prospect theory was validated in this context, as respondents consistently displayed reluctance to sell gold at a loss. However, the interviews added nuance, revealing that the “loss” is not just financial but also symbolic — selling gold is viewed as a **loss of family dignity or social capital**.
- **Overconfidence:** Although overconfidence had limited explanatory power in statistical models, qualitative accounts demonstrated its role in **panic-driven or speculative trading**, particularly among younger, higher-income groups. This confirms Barber and Odean’s (2001) findings but also highlights the **generational dimension** of bias.
- **Herding:** While measurable in allocation patterns, herding in Rohilkhand is more than imitation; it is intertwined with **social rituals (festivals, weddings) and reliance on community figures (elders, jewellers)**. This expands herding theory into the domain of **cultural conformity**.
- **Mental Accounting:** Thaler’s (1999) concept of mental accounting was strongly validated, with respondents treating gold as “untouchable family wealth.” Unlike equities or cash, gold is not part of the “investment account” but the “security account.” This finding extends behavioural finance by showing that **mental accounts can be culturally codified**, especially in societies where gold embodies status and safety.

Thus, this study strengthens the case for **behavioural finance frameworks adapted to regional and cultural contexts**, going beyond the universalist assumptions of traditional models.

5.3 Practical Implications

The insights from this study carry direct implications for **financial advisors, wealth managers, and households** in semi-urban India:

1. **Financial Advisory Practices:** Advisors must recognise that gold is not merely an investment but a **cultural store of value**. Advising households to “sell gold” or “reduce allocation” without sensitivity to its symbolic

meaning will likely fail. Instead, strategies should **frame diversification as complementary to gold, not as a substitute**.

2. **Investor Education:** Training programmes must move beyond generic financial literacy to include **behavioural awareness**. For example, workshops could help investors recognise the psychological traps of regret, overconfidence, or herding. Role-play scenarios demonstrating panic selling or herd-driven purchases could make these biases tangible.
3. **Digital Tools and Nudges:** Mobile applications could be developed to **prompt reflective pauses** before gold-related transactions, nudging investors to consider opportunity costs and diversification strategies. Such interventions could be especially effective for younger investors prone to overconfidence.
4. **Community-Based Strategies:** Since herding is strongly socially mediated, peer groups and community forums can be harnessed to **share balanced strategies**. For example, local cooperatives or jeweller associations could promote messages about sustainable investing practices.

5.4 Policy Implications

For policymakers and regulators such as the Reserve Bank of India (RBI) and state financial literacy missions, the findings offer clear directions:

- **Behaviourally-Informed Financial Literacy:** Programmes should explicitly address **loss aversion and mental accounting**, teaching investors to view gold as part of a broader portfolio rather than as an isolated safety net.
- **Promotion of Alternative Gold Products:** To reduce over-allocation to physical jewellery, the government should further promote **Sovereign Gold Bonds (SGBs)** and **Gold ETFs**, framing them as “modern forms of family wealth” that still preserve the symbolic role of gold while providing returns and liquidity.
- **Regulation of Informal Advice Channels:** Given the influence of jewellers and WhatsApp groups, policymakers might consider partnerships with these actors to disseminate **accurate and behaviourally sound financial information**.
- **Gender-Sensitive Programmes:** Since women play a central role in household gold decisions, literacy campaigns should be designed to **empower women as informed custodians of wealth**, aligning with both financial inclusion and gender equity goals.

5.5 Recommendations for Future Research

This study also highlights research gaps that future scholars should address:

1. **Longitudinal Studies:** Behavioural biases are likely to vary across time and market cycles. Future research could track investor behaviour across multiple years to assess stability versus adaptation of biases.
2. **Comparative Regional Studies:** Comparing Rohilkhand with other semi-urban or rural regions in India could illuminate whether the behavioural patterns identified here are specific to local culture or generalisable across the country.
3. **Intervention-Based Research:** Field experiments testing the impact of nudges, financial training, or advisory innovations could provide evidence of how behavioural biases can be mitigated.
4. **Gendered Behavioural Finance:** Given the significant role of women in gold decisions, gender-specific behavioural studies could deepen understanding of differences in loss aversion, mental accounting, and herding.

6: Conclusion

6.1 Overview of the Study

This thesis set out to investigate the behavioural drivers of gold investment among retail investors in the Rohilkhand region of Uttar Pradesh. While gold has long been recognised as both a cultural symbol and a financial asset in India,

limited research had addressed how **behavioural biases and socio-cultural factors** shape gold allocation in semi-urban contexts. Using a **sequential explanatory mixed-methods approach**, the study combined a large-scale survey of 400 respondents with 30 qualitative interviews. This design enabled the integration of statistical evidence with lived narratives, offering a comprehensive account of how biases such as **loss aversion, overconfidence, herding, and mental accounting** influence investment decisions.

6.2 Key Findings

1. **High Allocation to Gold:** On average, respondents allocated 38% of household wealth to gold, far above modern portfolio theory recommendations of 5–15% for alternative assets.
2. **Dominant Role of Loss Aversion and Mental Accounting:** Regression and SEM analyses confirmed that these two biases strongly predicted disproportionate gold allocation. Respondents were reluctant to sell at a loss and consistently segregated gold into a “safe” mental account.
3. **Generational Overconfidence:** Younger and higher-income investors showed greater overconfidence, leading to higher trading frequency in gold markets.
4. **Socially Embedded Herding:** Herding was not only a market phenomenon but also culturally mediated, driven by **festivals, weddings, peer advice, and jeweller influence**.
5. **Qualitative Themes:** Interviews revealed that gold provides emotional security, symbolises social status, and is linked to regret narratives of panic selling or herd-driven buying.

6.3 Contributions of the Study

6.3.1 Academic Contributions

- The study extends behavioural finance by demonstrating that **biases are culturally embedded**, not just universal cognitive heuristics.
- It provides one of the first region-specific behavioural analyses of gold investing in semi-urban India, enriching the literature on **financial psychology in emerging markets**.
- By integrating **quantitative and qualitative data**, it offers a holistic methodological model for studying investment behaviour.

6.3.2 Policy Contributions

- It highlights the need for **behaviourally-informed financial literacy programmes** that address loss aversion and mental accounting directly.
- It recommends reframing alternative gold products (e.g., Sovereign Gold Bonds, ETFs) as “**modern equivalents**” of **family wealth**, making them culturally acceptable.
- It points to the importance of **community-level interventions**, where jewellers, elders, and women are engaged as financial literacy partners.

6.3.3 Practical Contributions

- Advisors are encouraged to treat gold not as an asset to be “sold off” but as an **emotional and symbolic anchor**, recommending diversification alongside, not against, gold.
- Mobile applications could incorporate **behavioural nudges** to counter overconfidence and herd behaviour.
- Peer-led forums could promote reflective, balanced investment strategies.

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