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great by  
deeds, not by  
birth"  
-Chanakya

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Working Paper

**IIMK/WPS/673/FIN/2026/01**

February 2026

## **Investor Behavioural Biases in Mutual Fund Investments**

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# Investor Behavioural Biases in Mutual Fund Investments

## Abstract

This paper attempts to find out to what extent behavioural biases are responsible for the mutual fund with a special focus on psychological factors influencing the investment decisions of Indian retail investors. The present study combines ideas from behavioural finance and consumer behaviour in order to evaluate how loss aversion, herding, overconfidence, anchoring, mental accounting and regret aversion may affect mutual fund investment behaviour in India.

In this study, quantitative and exploratory approach research methodology has been used and has relied on the cross sectional survey data of retail investors in urban and semi urban India. The behavioural biases were identified through structured questionnaires that used well established psychometric scales. Methods such as descriptive statistics, correlation analysis, multiple regression, one, way ANOVA, and independent sample t- tests were used to study the direct influence of behavioural biases on investment decisions as well as the differences in bias susceptibility among demographic segments.

The findings indicate that among investors, loss aversion and herding are the two major behavioural biases that influence the frequency of switching and investor behaviour during market downturns. In fact, herding is a powerful driver of frequent switching even at the level of individual investors, while loss aversion leads to mass investor panic and withdrawal of funds from markets running down. In terms of demographic variations, the study reveals that behavioural bias is not homogeneous: youth are more prone to herding, low, income people exhibit stronger loss aversion, and males are more overconfident than females. The present study links behavioural biases to investment behaviours as well as demographic characteristics. As such, the study adds to the scarce empirical literature on behavioural finance in the context of mutual funds in India. The findings have significant managerial and policy implications especially for asset management companies, financial advisors and regulators that aim to develop investor centric products and communication strategies which will encourage long term disciplined investing and promote the flow of idle cash into mutual fund investments.

**Keywords:** Behavioural Finance, Mutual Fund Investments, Investor Behaviour, Biases, Loss Aversion, Herding

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# 1. Introduction

## 1.1 Background of the Study

One of the most prominent features that have collectively influenced the fund market is the emergence of mutual funds. Put simply, a mutual fund is a combination of money collected from many people and institutions, which is later invested in a diversified portfolio of different securities, such as stocks, bonds, money market instruments, government securities, or commodities. Currently, the system, which is under the professional supervision of Asset Management Companies (AMCs), has widely accepted mutual funds in the global financial network as one of the main players.

As an investment vehicle, mutual funds have great popularity, which is supported by their numerous advantages, including portfolio diversification, liquidity, professional management and easy access to various asset classes and market sectors. By the turn of the century, the total assets controlled by mutual funds were to the tune of more than \$6.8 trillion, hence, the mutual fund industry became the world's second-largest financial institution, only commercial banks were bigger. The enormous growth has been fuelled by retail investors' involvement, who use mutual funds as a tool for achieving their long-term financial goals like retirement and education.

In the past, the field of finance, built on top of the **Expected Utility Theory** and the **Efficient Market Hypothesis**, considered investors as entirely rational agents who would make decisions based solely on unemotional and logical calculations so as to maximize the utility expected and that asset prices already took into account all the information available. By the emergence of widespread, systematic errors concerning investment outcomes, the need for **Behavioural Finance** was emerging. This new domain that mixes economics with psychology, takes a completely different stance by showing that investor decision-making is not only cognitively but also emotionally biased and hence, the flaws are not occasional but rather systematic. The biases present in the investors' psyche, instead of being insignificant random shocks, are quite predictable and persistent dominating factors that influence the selection, valuation and trading of assets, thus, eventually causing substantial deviations from the rational choice models in the economy.

## **1.2 The Intersection of Behavioural Finance and Mutual Fund Investments**

Through its structure, the mutual fund industry is able to combine resources and provide benefits such as diversification, liquidity and professional management. Nevertheless, an individual investor's psychological flaws keep on damaging these benefits, hence, the interaction between behavioural finance and mutual funds becomes a significant field for investigation.

Investor psychological factors are a cause of systematic mistiming of capital flows. This means that money inflows usually happen after a good performance period of a fund (when prices are high), whereas outflows occur after bad return periods (when prices are low) which is a conspicuous example of performance chasing caused by Representativeness Bias and Recency Bias. It is also being intensified by Loss Aversion, where the wish to avoid the psychological pain of a realized loss results in investors that they wait for long periods in underperforming funds (Disposition Effect) and even sell in a panic when the market is at its lowest.

### **Contrast Between Institutional and Retail Investor Behaviour**

Most of the time, academic studies point out that there are differences in behaviours of institutional and retail investors. Compared to others, Institutional investors are less prone to certain behavioural errors like the Disposition Effect that may be due to professional constraints, more information and necessary internal controls. On the contrary, retail investors, especially those in emerging markets, are highly vulnerable to biases due to factors such as the low level of financial literacy, limited attention and influence of emotions. For example, Herding Behaviour which is very strong among retail investors is particularly prominent when market is uncertain, at that time they copy the actions of the others or the so-called "crowd" instead of doing their own individual analysis. Real-World Consequences: Under-Diversification, Performance Chasing, Herd-Driven Inflows/Outflows

### **The effects of bias-driven investing extend broadly and can be quantified:**

- Performance Chasing (Performance Gap): The mistiming of flows causes dollar-weighted returns (which reflect investors' actual earnings) to be considerably lower than time-

weighted returns (the fund's reported performance), thus, a persistent "performance gap" phenomenon is created.

- **Under-Diversification:** One of such biases is Overconfidence which makes investors overrate their capabilities and as a result, they excessive trade, concentrate their portfolios and fail to diversify properly.
- **High Costs and Suboptimal Choices:** Besides that, biases influence investors to behave incorrectly when selecting funds thus resulting in scenarios choosing schemes with high loads or expense ratios whereas investors mostly take easily accessible metrics like recent performance as a base for their decisions instead of considering the underlying costs or long-term risk profiles.
- **Herd-Driven Inflows/Outflows:** The behaviour of the herd as a whole leads to inefficiencies in the market and hence causes asset prices to drift apart from their fundamental values which in turn, is responsible for market bubbles and panic selling.

## **1.3 Theoretical Frameworks**

### **1.3.1 Traditional Finance Theories**

Conventional finance theory is built on the base of highly detailed mathematical models whose aim is to elucidate how asset prices are established and how investors make decisions, all under the assumption that they are perfectly rational.

The Expected Utility Theory is the main reference for rational decision-making. Expected Utility theory assumes that investors are rational, logical and risk-averse by nature and that they will always opt for the alternative that yields the highest expected utility. In the field of finance, it means that an investor is choosing the asset that gives the highest return at a certain level of risk or the lowest risk at a certain level of return.

Where Expected Utility Theory ends, the Efficient Market Hypothesis, whose main idea was most clearly expressed by *Eugene Fama*, begins. The main idea of the Efficient Market Hypothesis is that the security prices do, at the time in question, incorporate fully all the information that is available, be it public or private. The corollary to this notion is that the

chances of active fund managers being able to maintain an identical track-record of "outperforming the market" over time are practically non-existent, hence the simultaneous occurrence of the term "abnormal risk-adjusted returns" being coined. The efficient market hypothesis recommends that an investor employs passive management (generally through low-cost index funds) to maximize returns, as any attempt at active security selection or market timing would only aggravate transaction costs and reduce the investor's earnings.

### 1.3.2 Emergence of Behavioural Finance

The limitations of traditional finance started to reveal themselves when empirical evidence became consistent in showing that investor behaviours violate the core assumptions of Expected Utility Theory and Efficient Market Hypothesis in a systematic way. The accumulating set of anomalies opened the door for the **Emergence of Behavioural Finance**, a field that seeks to create financial models based on how "ordinary people" actually behave, not how "rational people" should behave.

Modern behavioural finance traces its roots to the seminal works of psychologists *Daniel Kahneman and Amos Tversky* as well as economists like *Richard Thaler and Werner De Bondt*.

Their study gave rise to the core ideas that eventually formed the basis of the field:

- **Bounded Rationality:** Investors are said to have limited cognitive capacity, time and attention which limits them to using cognitive shortcuts instead of a thorough, calculated analysis.
- **Heuristics and Cognitive Shortcuts:** Decision-makers use mental rules of thumb (heuristics) to make tough decisions in a short time. Although these heuristics are effective, they still lead to certain systematic cognitive errors and biases which diverge from logical judgment.
- **Emotional Influences:** Decisions, in general, are not driven by the utilitarian desire for wealth accumulation only but also by **expressive and emotional wants** like the desire for high social status, the avoidance of regret and the feeling of pride which quite often result in making financial choices that appear to be irrational.

### 1.3.3 Prospect Theory

The major theoretical accomplishment of the first generation of behavioural finance was **Prospect Theory**, a concept brought forward by *Kahneman and Tversky in 1979*. The theory serves as a fundamental account of the irrationality that recurs and is of a social psychological nature, which is identified in the investment markets.

Whereas Expected utility theory considers the final levels of wealth, Prospect Theory, on the other hand, suggests that people emotionally evaluate their outcomes as positive (gains) and negative (losses) changes compared to a certain reference point (for instance, the initial cost or the most recent portfolio value).

The two most important components of Prospect Theory that are used to describe investor decision-making are:

- **Loss Aversion:**

This is by far the most forceful psychological driver that claims that the psychological pain (disutility) caused by a loss is much greater – about twice as powerful – than the psychological pleasure (utility) caused by an equivalent gain. Loss aversion results in a strong preference for loss avoidance thus the investor becomes strongly committed to not realizing losses and even chooses to take the risk of greater loss in order to avoid realizing a loss, hence driving the bias such as the **Disposition Effect**.

- **Framing Effects and Mental Accounting:**

According to Prospect Theory, decision depend on the **reference point** and the people are very sensitive to the way the alternatives are presented. This is exemplified in **Mental Accounting** where investors mentally separate their money into different, non-fungible "accounts" (e.g., "safe money" for retirement vs "risky money" for speculation). This cognitive segregation enables investors to take different degrees of risk in different mental accounts and is frequently employed as a regulator to safeguard the long-term capital against short-term temptation.

## 1.4 Rationale of the Study

Although psychology has a clear role, the orderly research and application of behavioural mitigation strategies, in India particularly in the rapidly growing retail mutual fund market, are still at a very low level.

There is a need to understand psychological biases in India's retail mutual fund segment.

The Indian retail investment landscape is filled with a large number of new digitally accessing market investors who are less-experienced. This situation upsurges their susceptibility to heuristic-driven errors thus creating the necessity to understand psychological biases within this specific segment of the retail mutual fund to lead investment behaviour towards rationality.

Experience in the early stage of the career and strong social influences make Herding and Regret Aversion biases sound especially in this group.

### **Importance for AMCs, Regulators and Financial Advisors in Investor Education and Product Strategy Planning**

The findings from the bias analysis of investors can be used directly by AMCs, regulators and financial advisors.

- **AMCs:** Behavioural insights can be used by AMCs to create product and marketing communication strategies (e.g., lower-cost options, goal-based funds) that have the effect of positive "nudges" that lead to the desired customer actions.
- **Regulators:** The facts can be used by regulators to form investor education initiatives and disclosure mandates which specifically concentrate on cognitive issues instead of just providing the information in a sequential manner.
- **Advisors:** Tools to recognize and handle client biases are what advisors need, thereby going beyond conventional risk assessments and moving to a behaviourally informed advisory practice.

That money could be used to create long-term wealth, but there is a risk of misallocation

**One of the main goals of this project is to find ways in which it could be possible to reduce the improper use of savings.**

By pointing out the mental barriers that keep investors from using mutual funds for the right

purposes, interventions tailored specifically for them can be designed. Such an action will not only result in the disciplined investing promotion but also the reduction of performance chasing and the increase of the adherence to the risk-return perspective in line with the investors financial goals which are the long-term wealth creation contributions directly associated with this study.

## **1.5 Challenges**

One of the major issues in India is the situation where people want to save a lot but the way they invest is not good enough.

In spite of the fact that the savings rates in India are high, a big part of the money saved by Indian households is still kept in assets that yield low returns.

India is a country that for a long time has kept a high level of household savings, nevertheless, a substantial amount of money is still trapped in **low-yield assets** such as bank deposits (Fixed Deposits or FDs), physical gold and traditional insurance products. Even though these assets are considered "safe" and are readily available, they are often incapable of generating real returns (post-inflation), thus, they obstruct long-term financial security. The reason why these conservative instruments are preferred is because of a profound aversion to risk which is attributed to cultural factors and lower level of market trust.

### **Behavioural Biases are the Main Causes of Low Risk Preference and Poor Investment Diversification**

The unwillingness to give up low-yield investments is largely influenced by behavioural biases. Loss Aversion leads to the increased fear of losing capital and this fear dominates completely the rational goal of maximizing real (inflation-adjusted) returns. Without sophisticated financial planning tools or guidance, the situation of poor investment diversification also occurs as investors develop dependence on heuristics like Familiarity Bias (investing only in well-known brands or local firms) or Anchoring Bias (using past positive outcomes as an irrational guide). These biases are an explanation for the low-risk approach and consequently for poor investment diversification into growth-oriented assets such as mutual funds.

**Recognition of and confrontation with these biases can help investors to realize their intentions of mutual fund investing and act upon them**

The boom in digital platforms brings with it an unparalleled possibility of obtaining up-to-date data on how investors come to their decisions. The identification of and confrontation with these biases can have a direct effect on bridging the gap between investment intention and action. By knowing the reasons for the investor's hesitation or choice of sub-optimal solution (e.g., selecting an FD over a balanced fund), innovative technological "nudges" and messages can be developed to encourage rational mutual fund investing aligned with the investor's goals which will result in the conversion of savings lying idle into growth capital.

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## **2. Problem Statement**

The mutual fund sector in India has massively expanded its AUM over the last few years. Nevertheless, the contribution of retail investors has been quite low and irregular. In spite of the fact that returns have been good and the funds are easy to access, investors continue to make poor choices most of the time. For example, they overreact to short-term market fluctuations, blindly follow the majority, or stay on the sidelines because of fear of losing. Such a situation implies that investors' behaviour is influenced more by behavioural factors than by financial literacy.

### **2.1 Context of the Problem**

#### **Indias Savings Pattern and Low Penetration of Mutual Funds**

Indian households have a high saving rate, but this saving is largely done through the preference of traditional non-financial assets such as real estate and gold and low-risk financial products such as fixed deposits. This conservative trend results in a low penetration of mutual funds among the general population when compared to developed markets, which is a significant economic opportunity cost in short. Investments in many cases are still driven by the influence of the friends circle, or individual experience and knowledge, rather than taking the professional advice.

#### **How Behavioural Biases Impede Rational Financial Decisions**

Behavioural biases are the main barriers that prevent investors from using a rational, long-term strategy in investing. Investors frequently see patterns where there are none (e.g., short-term market volatility) and thus mistake the randomness for a predictable negative pattern (Representativeness Bias), which results in fear and avoidance. Loss Aversion is what causes market timidity and panic selling during downturns, thus, investors are not able to use the capital for potential gains. Overconfidence causes lack of sufficient research, overexposure to familiar stocks and excessive, too frequent trading which are costly. In these ways, Behavioural biases hinder rational financial decisions as they substitute emotional reactions and heuristic shortcuts for logical analysis.

#### **Rising Digital Access Provides Data to Study and Mitigate Such Biases Through Fintech**

## **and Advisory Innovations**

The wide availability of smartphones and new fintech platforms in India has led to increasing digital access for investors. The digital footprint created by investors is a unique, immediate data source for understanding and measuring the impact that biases have on the investment decision-making process, for example, SIP registration and redemption requests. Fintech and Advisory Innovations that are being developed can use this information to behavioural nudges- small, non-intrusive prompts- to guide investors towards a goal-congruent, long-term plan and to lessen bias-driven decision-making.

## **2.2 Knowledge Gap**

### **Limited Empirical Research on Behavioural Biases in the Mutual Fund Context, Especially Among Indian Retail Investors**

While there is a broad and varied literature globally on behavioural finance, the number of empirical studies that concentrate on the particular psychological factors of Indian retail investors in the mutual fund context is still limited. It is often found that research results from developed markets or direct equity segments cannot be simply applied to India because of different cultural, informational and regulatory factors.

### **Most Studies Focus on Stock Market Investors; Mutual Fund-Specific Studies are Scarce-**

Behavioural research in India has been substantially inclined towards the stock market and trading behaviour. There are hardly any mutual fund-specific studies which mostly consider these as an investment class without looking into the intricacies of decision-making regarding choosing the right fund, systematic investing and managing a multi-scheme portfolio, which are the key aspects of mutual fund behaviour.

### **Lack of Analysis Linking Behavioural Biases to Product Innovation and Investor-Centric Marketing-**

One of the major reasons behind the gaps in literature is the absence of sufficient analysis connecting behavioural biases with product innovation and investor-centric marketing strategies. Although biases are recognized, there is hardly any guidance in the literature on how Asset Management Companies can instrumentally integrate bias alleviation in the creation of new

mutual fund schemes (e.g., by making it less apparent certain high-cost options) or in their marketing content to facilitate the promotion of a long-term and disciplined approach.

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### 3. Literature Review

Behavioural finance, as a developing concept, is a very important and influential factor that goes beyond the classical and neoclassical financial theories. The idea helps investors to make critical financial decisions by understanding and predicting many factors (*Jumble, 2016*). Moreover, *Sharma (2016)* illustrated the change of behavioural finance into a subfield of traditional finance, explaining the concepts of market dynamics, investor rationality and the modern portfolio theory by Markowitz. The paper is aimed at explaining the traditional finance theories that have been proven wrong by behavioural finance and also pointing the importance of behavioural finance.

Different biases in decision making - Behavioural finance supports financial decision-making, being a psychological theory that explains how different biases affect an individual's choice. It can be said that most of the human decisions are influenced by two things - heuristics and biases - as far as human psychology is concerned. Heuristics as simplified rules of thumb mostly affect human decision making and this finally results in different kinds of biases which are mistaken judgment in nature (*Tereza Culkov, 2017*). The significance of behavioural finance in decision-making covers a wide range of biases.

Primarily by Two groups of biases can be distinguished: cognitive biases and emotional ones. The article makes a distinction between two sets of biases based on a person's cognitive and emotional faculties. Cognitive biases as described by *Joyce Ehrlinger (2016)* are human reliance on cognitive schemas or heuristics which not only help in making quick and efficient decisions but are used in everyday life as well. These shortcuts give people a chance to be aware of judgments that often prove to be satisfactory for them, thus leading to the anticipated cognitive biases. Emotional biases normally come entirely unexpectedly and are being influenced by an individual's personal feelings at the time the decision is taken. They could also be deeply rooted in personal experiences that influence the decision-making process (*Parker, 2019*).

According to human psychology, most of the decisions made are being influenced by both sets of biases. Huge numbers of studies on the addressed biases reveal the fact that these occur on a regular basis. Furthermore, *Siwar (2011)* states that the overconfidence mainly causes people to overrate the precision of the already evaluated facts or pieces of information. Among various biases the most influential is overconfidence which *Kahneman (2011)* sees as the major source of error in human judgment due to its significant influence on people's decision-making

process (*Tereza Culkov, 2017*).

Overconfidence in its most simple terms can be referred to as a mistaken belief that one's intuitive reasoning, judgment and cognitive abilities are right. The problem of overconfidence is linked with a series of cognitive psychology experiments and surveys where the participants in the experiment exaggerate their prediction abilities as well as the accuracy of the given information (*Pompian, 2006*).

Mental accounting is an option paradox that affects investor decisions in somehow unexpected ways. It is about making decisions in a situation of limited resources and several alternatives. More than that, people even set up a cognitive budget prior to performing any action, especially in the case of money matters. People convert these various options into different categories and, accordingly, decide on the priority of the decision (*Chandra, 2016; Syed Usman Qadri Mohammad Ali Jinnah University, 2014; Mallick, 2015*).

Moreover, a phenomenon termed as optimism bias occurs when a person tries to keep optimistic in all situations while not considering negative consequences of any decision (*Pompian, 2006*). Pompian discussed this bias indicating that investors tend to show very high levels of optimism for the good results of their investment decisions. Plenty of overly optimistic investors are convinced that bad investments will not affect them, but will only affect 'others'. This statement allow investors to continue holding losing stocks, as they think that today's losers may eventually outperform today's winners (*Sahai, 2014*).

The idea of loss aversion bias, which is a branch of prospect theory, was first introduced by Tversky and Kahneman in 1991. Loss aversion bias is the bias which refers to prioritizing the pain caused by losses over the pleasure coming from wins. This bias stops people from selling unproductive investments, especially when there is no prospect of recovery. The tendency of people to avoid loss is talked about in the paper titled loss aversion bias as the case when they continue with unprofitable investments in order to prove that they have not suffered losses and still hold onto them (*Consulting, 2010*). *Ritoy (2012)* as consequence states investors' loss avoidance tendency is the major factor influencing their inclination towards risky option aversion, thus their loss aversion being more dominant than the desire for gains.

Self-attribution bias (SAB) is a phenomena, when individuals regard own characteristics responsible for their success, but however, assign external factors to their failure that are beyond

their control. Under ambiguous situations, attributions are influenced by a person's needs and desires. The term SAB includes self-enhancing bias, which indicates the tendency of people to attribute too much of the credit for their success to themselves and self-protecting bias, which is their reasonable rejection of the responsibility for their failure (*Mushinada, 2020*). Self-attribution bias made people to overestimate their skills and avoid skill evaluation, thus they become overly confident. As a result, overconfidence and self-attribution are both static and dynamic counterparts and thus interact (*Hirshleifer, 2001*).

Pompian (2006) mentioned self-control bias, which originates from the inability to control one impetuous and habitual tendencies. The lack of self-control makes investors caught in the conflict between their dominant desires and their inability to regulate them. At last, Pompian (2006) discussed recency bias.

Recency bias is a form of cognitive distortion in which a person overly recalls and attaches importance to the latest events and observations and tends to forget or undervalue the older ones. Recent related operations will have the most significant impact on investors' decision-making in the current context. A good event leads to an optimistic view of investing decisions, while a bad incident depresses decision-making. The recent incidents have a strong effect on the investor and thus he/she is very much influenced in decision-making. The conservative nature leads to a propensity for conservatism. Investment avenues selection and subsequent decision-making are, without doubt, affected; for example, a conservative investor will avoid risky options such as equities and instead choose safer alternatives like government bonds.

In his paper "Financial Literacy, Risk Tolerance and Stock Market Participation" published in the Asian Economic and Financial Review in 2018, Rajesh Mishra investigates the influence of self-assessed financial literacy, investment awareness, risk tolerance and socio-economic factors on household decisions to invest in the stock market. The study bases its analysis on survey data collected from Indian households by SEBI (the Securities and Exchange Board of India) to understand deeply the characteristics, behaviours and patterns of investing of these households.

H. Kent Baker and Victor Ricciardi (March 2014) investigate biases that influence investor behaviour in their work titled 'How Biases Affect Investor Behaviour.' The authors state that investor behaviour is often not logical and rational and behavioural biases are the main factors that affect the decision-making processes of these investors' investment. They are numerous, but cognitive biases play a central role.

This research work is an investigation of the extent to which investors are influenced by behavioural and cognitive factors when making investment decisions.

## 3.2 Key Investor Behavioural Biases

A thorough review demonstrates that mutual fund investment decisions suffer from various cognitive and emotional biases that are interrelated and influence each other.

### 3.2.1 Overconfidence Bias

**Definition and Cause:** Overconfidence bias refers to the extreme tendency of investors to overestimate their knowledge, skills and the accuracy of their predictions in comparison with others. Usually this bias can be found in the surveys of investors when individuals assert that their knowledge of mutual funds is better than that of the average investor.

**Empirical Effects on Investment:** Overconfidence can lead to financial outcomes that are adverse to one's investment goals. It generally manifests itself through two central mechanisms:

- **Excessive Trading and High Risk-Taking:** Overconfident investors are more likely to involve themselves in **excessive trading** and quick fund switching activities. They do so in the belief that they can time the market or choose better funds than others in a more effective way. This excessive activity results in lower net returns due to increased transaction costs.
- **Suboptimal Fund Selection:** Overconfidence can cause investors to neglect trading costs, especially if they choose to heavily invest in newly issued shares (IPOs) and a narrow industry while at the same time they may *confuse a bull market with their own skill*. What is more, average fund manager performance in terms of abnormal returns is less than 75% of the expenses. However, some studies provide evidence for a small subgroup of managers those graduates from higher-SAT colleges or younger managers who are able to demonstrate stock-picking skills, thus implying that sophistication may only reduce, but not completely eliminate, the effects of strong conviction.

### 3.2.2 Herding Behaviour

**Definition and Cause:** One common behaviour observed in the financial world is "herding,"

where investors knowingly or unknowingly follow others blindly. It is one of the most significant tendencies of retail investors and professional managers. The inclination leads to the ignoring of children's (investors') private information and at the same time the imitation of the majority or the leaders (institutional-peer-group). As a result of this, informational cascades and quick, concentrated movements of funds in or out of sectors or specific groups of investors become a reality.

**Empirical Evidence and Debate:** Managerial herding is a significant conflict that the academic literature has revealed.

- **Signal of Low Skill and Underperformance:** Several research works that have been carried out show quite clearly a consistent **negative relationship between herding and management skill**. Managers with a strong herding behaviour pattern underperform their "anti herding" counterparts by a vast, statistically significant margin, sometimes even more than 2% yearly. The difference informs that anti herding managers possess superior investment decision-making ability and better predict the directions of institutional crowd movements.
- **Rational Career Strategy:** Paradoxically, herding is most of the time identified as a logical means of survival for professional managers who are novices and have a strong concern for their career growth, especially. The act of herding lowers the termination probability of an inexperienced manager significantly when compared to the risk encountered in making the unconventional, anti herding decisions. Mentioning this, an agency problem is underlined where a manager's rational self-interest (job security) is at odds with the maximization of the client's return.
- **Context Specificity:** More often than not, **herding can be found in small-cap stocks** and growth-oriented funds are more likely to exhibit herding behaviour. In addition, net cash inflows into a mutual fund, on the other hand, may reduce the manager's likelihood of engaging in herding behaviour, thereby implying that the manager is more confident or has a greater incentive for making the decision independently.

### 3.2.3 Representativeness Bias

**Definition and Cause:** Representativeness bias refers to the use of stereotypes or very recent,

highly visible results to estimate the likelihood of a future event. When this heuristic is used in finance, it is seen as the irrational belief that market performance in the past or the success in a short period is "representative" of a manager's skill and, therefore, it is predictive of future returns."

### **Empirical Effects on Mutual Fund Flows:**

- **Performance Chasing:** Representativeness bias is the main reason for the phenomenon of performance chasing which is widely observed. Investors, driven by this bias, pour huge amounts of money into those funds that have shown a recent spike in returns. This happens regardless of the fact that the industry repeatedly warns that "Past performance does not guarantee future results".
- **Poor Timing:** Performance chasing is the cause of poorly timed fund flows. The link between capital flows and past returns indicates that investors are usually buying stocks when they are at their peak and selling them when they are at their lowest, hence, they are losing money in the long-run. The irrational decision to allocate capital due to this bias is quite a large one as empirical findings demonstrate that the behavioural component of fund flows is still strong even when rational models that predict expected returns should revert to zero due to competitive inflows are taken into consideration.

### **3.2..4 Anchoring Bias**

**Definition and Cause:** An anchoring bias refers to a situation whereby people, when faced with deciding among different options, take the first piece of information they receive (the anchor) and overly rely on it, even if that information turns out to be irrelevant to the decision's result. They later adjust their estimations minimally away from that first given piece of information.

### **Manifestation in Mutual Fund Investment:**

- **Reference Prices:** In many instances, the original purchase price per share of a fund becomes the psychological anchor, mostly in the case of the Disposition Effect, as investors compare in their minds the current Net Asset Value (NAV) with that initial cost.
- **Initial Fund Data:** Investors may use a fund's initial, easily attainable metrics as their

benchmark forever, such as an old, historical NAV, an initial risk rating, or a short-term annualized return figure. By doing this they may fail to recognize newer data completely or, at best, they may make only slight adjustments to their view due to the subsequent data. Their problem gets worse as a result of studies showing that investors do not only anchor on the original purchase price but also on the price that they saw during their last login or portfolio check, hence, create a very volatile, dynamic reference point.

### 3.2.5 Mental Accounting

**Definition and Cause:** Mental accounting, which is at the core of Prospect Theory, is the cognitive process of investors separating their money into different mental "buckets" or accounts based on either the source or the intended use of the money. This separation goes against the core rational principle of fungibility (the idea that money is interchangeable).

#### **Impact on Investment Strategy:**

- **Risk and Allocation Distortion:** Mental accounting causes the portfolio to have an inconsistent risk level. For example, an investor could set aside a part of assets for short-term cash needs (e.g., considered "safe") and another for long-term investment ("risky"). Although this is usually done as a way to gain emotional control and avoid excessive conservatism, it may result in the bucket of each segregated group taking an inappropriate risk without realizing it.
- **Decision Framing:** The mental framing of a decision plays a major role in determining the outcome. If investors consider loss-making securities as a part of the whole profitable portfolio account, they are more willing to realize the losses. On the other hand, if they see it as a separate security, they will hold onto the loss-making one. This is a mechanism aimed at minimizing the regret of loss realization. The idea is also closely related to Confirmation Bias, where mental accounting processes form a "comfortable feedback loop" that investors are reluctant to challenge.

### 3.2.6 Loss Aversion

#### **Definition and Cause:**

Loss aversion is an emotional bias whereby the psychological impact of an actual or potential

loss is much greater than the pleasure of an equivalent gain. It is the main reason that the Disposition Effect is predominant and stems from the Prospect Theory value function.

### **Empirical Evidence and Financial Impact:**

**Disposition Effect:** Loss aversion is best expressed as the Disposition Effect, the hesitance to realising losses (selling losing funds/stocks) while at the same time being quick to realising profits (selling winning funds/stocks). The investors continue to keep the losing investments, thus they will not experience the regret of making a wrong decision as a result of the reference point will be the same as before.

**Market Flight:** The bias is the main factor that led to such kind of irrational behaviour during market downturns. For instance, during the dramatic market fall in October 2008, a huge number of mutual equity funds were abandoned and a rush to cash was made; therefore, it was at the bottom when intense loss aversion drove investors to sell off their assets, thereby cutting off their future earnings potential.

**Suboptimal Cost Selection:** The need to avoid realising losses causes a cognitive error: investors overestimate how long they will keep their funds. Such an illusion leads to the systematic error of choosing that high front-end load fund which only benefits the investor having a long-term horizon, a future the investor is unlikely to maintain.

### **3.2.7 Regret Aversion Bias**

**Definition and Causes:** Regret aversion bias refers to the tendency of the emotional part of a person's brain to shy away from decisions that could later bring psychological pain in the form of remorse (regret), especially if the outcome is not favourable.

#### **Investment Behaviour Examples:**

- **Status Quo Bias and Inertia:** This bias presents itself as a status quo bias, whereby investors decide to do nothing (continue with familiar options or existing holdings) rather than take a step further, as they are scared that the new action may result in a negative outcome and hence regret.
- **Holding Losers:** Regret aversion is profoundly conjoined with the Disposition Effect, thus, it is the major factor that impedes the release of losing investments, as selling makes

the investor accept that it was a mistake to have bought in the first place, hence, regret is provoked.

- **Conventional Choices:** To be on the safe side and avoid regret, investors tend to move along with the crowd in making typical, popular investment choices, for example, blue-chip or glamour stocks and stay away from less popular, contrarian, or undervalued securities. By shunning the unconventional assets, investors may be the ones contributing to the abnormal returns in the value investing strategies since the "regret tax" is what causes inefficient pricing.

### 3.3 Empirical Evidence

#### 3.3.1 Global Studies

Most of the empirically based research in developed markets has been geared towards not only determining behavioural biases that are of major significance but also measuring the costs associated with them.

**The Disposition Effect (DE):** The pioneer study of trading records by Odean was the first to establish the DE. Later investigations found its existence in professional money managers. Li Jin and Anna Scherbina (2004) performed a research which provided solid backing of the Disposition Effect among professional mutual fund managers. The authors demonstrated that the behaviour of the continuing managers was characterized by a systematic reluctance to sell inherited stocks that had performed poorly via portfolio tilting toward momentum losers whereas the stock of the newly appointed managers which, as a result of being emotionally detached from the original purchase, disproportionately sold losers, was significantly lower. However, a number of studies, including Cici (2005), argue that the DE had a much weaker effect on the trade of mutual funds than in the case of individual investors, thus managerial sophistication and professional processes were cited as mitigating factors although the bias was not totally obliterated. The funds that show the disposition effect are the ones which exhibit high failure rates, implying that this bias majorly hampers long-term fund survival.

**Performance Chasing (Representativeness Heuristic):** The link between past performance and mutual fund flows has been consistently found in many different markets globally. Edelen (1999) was the one who empirically confirmed that fund flows are badly timed and at virtually the same

moments new money is poured into funds stock market returns are on the verge of going down. The extent of this relationship is mostly due to investors cognitive failure who never completely withdraw their capital from a fund even when a related one managed by the same person is underperforming thus showing persistent irrational rigidity.

**Ambiguity Aversion:** Studies have unveiled new and convincing evidence on how ambiguity aversion serves as a barrier to investor flows, especially in the case where skill signals of the manager (e.g., 1-year, 3-year and 5-year returns) are not only uncertain but also lacking in precision. The empirical results are very consistent in supporting a model in which ambiguity-averse investors disclose their strongest concern to the single measure among many that reflect their worst performance at different time horizons. This overreaction to the worst-case scenario is far less significant in institutional funds than in retail funds, thus the uncertainty perceived by the retail segment is made more prominent.

### 3.3.2 Indian Context

India-specific studies on mutual funds show the great significance of behavioural finance globally. Indian-centric studies merge the global concept of behavioural finance and depict the Indian cultural and market-specific characteristics of behavioural biases. The study on how behavioural biases and the characteristics of individual investors affect the Indian population in mutual fund choices has been the focus of research.

- **Key Biases Identified:** The factor analysis of Indian investors reveals that the central biases recognized in them are Familiarity and Domestic Bias, Representativeness (blue-chip fallacy), Optimism Bias, Mental Accounting Bias and Aversion to Ambiguity.
- **The Home/Familiarity Bias:** It appears as a preference which is a very strong one for schemes from familiar and branded institutional houses like LIC Mutual Fund and Reliance Mutual Fund, only on account of the recognition of the name and not on the basis of performance or cost analysis. Also, the fund managers may show Home Bias or Local Bias if they prefer the stock of companies that are geographically near to them and most probably do not realize that they are missing out on better performing or cheaper assets located in other places.
- **Representativeness in Selection:** Indian investors convince themselves that good

historical returns or a well-established parent company (like SBI Bank or Reliance group) performing well are the factors that will lead to the superior performance of their mutual fund scheme. On the other side, the statement that "those mutual funds which were losers in the last three years... should not be invested in" reflects the Representativeness Heuristic that causes the avoidance behaviour to be predominant.

### **3.4 Gaps Identified**

The acceptance of behavioural finance concepts has brought to light the areas where the research has to move beyond just the detection of phenomena to prescriptive and integrated modelling:

**Lack of Integration Studies Combining Multiple Biases in Mutual Fund Context:** The present literature on bias treatment has mainly represented that biases are involved as separate factors (e.g., studies that concentrate only on Herding or the Disposition Effect). Nevertheless, it has been proven that human decisions are influenced by numerous biases at the same time and these biases are able to support each other (e.g., Overconfidence causing excessive trading, which is then justified by Confirmation Bias). The demand for new empirical models that are able to not only reveal but also explain these kinds of complex relationships is very high.

**Scarce Research on Linking Investor Biases Mitigation to Product Design or Marketing Communication:** A major fault is the conspicuous disconnect between recognizing behavioural mistakes and building a rigorous empirically validated body of evidence concerning the effectiveness of practical mitigation, or "de-biasing" strategies. This gap goes deep and is equally applicable to structural interventions (e.g., product features designed to limit market timing) and technological solutions (e.g., nudges embedded in app interfaces).

**Neglected Behavioural Interventions in the Indian AMC Ecosystem:** The research, especially that which pertains to the Indian setting, is short of practical, tested behavioural interventions tailored for the local AMC ecosystem and its regulatory environment. While financial advisors' strategies on the implementation of behavioural nudges in common local scenarios (e.g., discouraging impulsive SIP stops or fund switching within the same fund house) have been hardly touched upon, the literature is silent in this area.

## **4. Research Objectives and Questions**

### **4.1 Objectives**

The subsequent study aims to pursue the following objectives:

1. The study intends to discover the significant behavioural biases that affect the decision-making process of mutual fund investments in Indian retail investors.
2. To assess how these biases specifically affect the behaviour of the investors in choosing funds, deciding on the timing and investment redemption, that is to say, to what extent the four factors (Overconfidence, Herding, Loss Aversion and Anchoring) influence such decisions.
3. In order to mitigate such bias-driven investment decisions, the study also intends to investigate behavioural interventions and product innovations that may have the effect of reducing such decisions structurally and thus effectively.

### **4.2 Research Questions**

The primary research questions that will guide this study are the following:

1. In what way do biases such as overconfidence, herding and loss aversion affect the investment behaviour of a mutual fund at the different decision points most notably: the initial fund selection, the switching frequency of the fund and the timing of the crucial redemption?
2. Considering factors such as income, education and investment experience, which demographic or psychographic segments are most susceptible to these biases within the Indian retail mutual fund investor base?
3. How could AMCs or financial advisors create communication and products to alleviate these biases in an efficient manner, thus going beyond disclosure to the implementation of practical nudging strategies?
4. Which policy or technological interventions could be instrumental in effecting the transformation of idle household savings into mutual fund investments resulting in the successful overcoming of psychological barriers?

## **5. Scope of the Study**

### **5.1 Geographical Scope**

The research will mainly concentrate on **urban and semi-urban** areas of India, where the investor demographic is more and more digitally active in their investment behaviours. It may involve city-wise sampling of those with a high mutual fund penetration level like Mumbai, Delhi, Bangalore, Chennai and Hyderabad in order to have a proper coverage of the core retail investor base.

### **5.2 Demographic Scope**

This research includes individual retail investors of any age, income, or educational background. One of the most important aspects of the scope is the detailed contrast between the two groups of investors: those with experience and those without, thus the goal was to examine the differences in their degrees of vulnerability to behavioural biases.

### **5.3 Conceptual Scope**

The scope of the analysis is strictly limited to behavioural biases that influence the choice of mutual funds that is the selection, holding and redemption of decision-making processes. Essentially, the main emphasis is on the measurement of Overconfidence, Herding, Loss Aversion and Anchoring while the mention of the related and overlapping cognitive errors is only from the side. The angle of the paper excludes the purchase of individual stocks or other non-mutual fund asset classes.

### **5.4 Limitations**

The methodological limitations to the planned research are as follows:

- Self-reported bias in measurement, which is necessarily a highly subjective matter, as investors very often underreport their acknowledged biases or explain away their past decisions.
- The small scale of the study implies that the results will mainly show the behaviour of Indian retail investors only, while the behaviour of institutional investors will be excluded and not the focus of core empirical analysis.

## 6. Significance of the Study

### 6.1 Industry Significance

The widespread and interrelated behavioural biases of investors lead to negative consequences that are measurable and, as a result, pose structural challenges to the financial services industry and regulators.

#### 6.1.1 For Investors

Behavioural biases of investors, when combined, lead to a considerable drainage of wealth and the acceptance of suboptimal risk levels.

- **Suboptimal Decisions and Return Erosion:** Performance chasing (Representativeness) is the main reason for investors' poor market timing that is consistently reported. Investors buy at market peaks and sell at troughs thus the real gap between funds returns and investor returns is more than 180 basis points. The failure here is not noise but a persistent and costly behavioural flaw.
- **Portfolio Inefficiency:** The main culprits of Confirmation Bias and Familiarity Bias are the contributors to portfolio inefficiency because these biases work in such a way that the dangerous concentration of assets in the favoured sectors or local stocks is allowed thus the investors increase the unsystematic, diversifiable risk. The investor's reluctance (caused by Loss Aversion and Regret Aversion) to selling losing investments results in capital that is locked in underperforming funds and thus the investors miss the better investment opportunities.
- **Costly Errors:** The Disposition Effect leads investors to overestimate their future holding periods in an irrational manner, thus they end up choosing funds with high front-end loads that, in the end, are only cost-effective over long horizons which they are unable to maintain.

#### 6.1.2 For Fund Managers and Financial Advisors

Behavioural finance is essentially a call for investment professionals to recognize that the problem does not lie with people having bad investments but rather people having bad behaviour

in investments.

**Need for Bias-Aware Advisory:** Financial advisors should be aware that non-professional investors will depend on their knowledge most of all and therefore require help in balancing the utilitarian benefits (high return, low risk) with the emotional and expressive aspects (pride, regret avoidance). This means going beyond the traditional portfolio metrics to not only address but also manage client biases explicitly.

**Structural Mitigation:** Fund management companies ought to put in place structural measures aimed at lessening the effect of biases in situations that are client-facing as well as in the interactions that are decision-making within the firm. This consequently leads to the elimination of establishing subjective criteria and the spontaneous development of systematic, data-driven and unbiased investment assessment techniques that explicitly neglect the usage of the past or anchoring reference points.

**Ethical and Career Conflicts:** The continued managerial herding, according to rational career concerns (to lessen the risk of termination), is a strong indication of a substantial agency problem behind it. Managers may actually reason that following the crowd (thus one strategy among many) is better albeit it is suboptimal for client returns (performance below the benchmark) and still it is the most beneficial for them (job security), hence the responsibility of management firms and boards is to solve the conflicting issues.

## 6.2 Policy Significance

Given that competitive market forces may not be effective in the case of behaviourally flawed investors, policymakers and regulatory bodies (e.g., the SEC) should not only consider the market mechanisms that safeguard investors but also ensure that the markets operate in a fair manner.

**Mandatory Uniform Disclosure:** The evidence from the researched documents is near unanimous in advocating for very strict and uniform disclosure rules as a way to invigorate the market forces. Among other things, standardization should be imposed on performance reporting of the fund, disclosure of portfolio (to enable risk evaluation), advisory fees and total expenses so that inter-fund comparisons become a breeze.

**Reducing Impediments to Mobility:** The regulatory moves should be directed at removing

those barriers that limit the mobility of investors, for example, heavy sales loads (front-end or back-end) and steep redemption fees that increase the cost of the fund switch and reduce the competitive discipline of fund advisors. It is absolutely necessary to make full, clear and understandable disclosures about the nature of such impediments.

**Nudges and De-Biasing:** Regulatory agencies may adopt 'nudge' policies and structural changes such as more compulsory and clearer risk warnings or ensuring that the attributes of fund-style labels reflect the underlying holdings (thereby counteracting Anchoring or Confirmation Bias) to facilitate investing in a more rational way, especially in the case of complicated products and high-fee structures. The authority in charge of issuing and enforcing rules against fraud and the like must be vigorous, as activities like market timing that are illegal, damage investor trust and welfare.

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## 7. Research Methodology

The methodological framework of this research is based on **Descriptive and Exploratory Research**, with the main approach being Prescriptive Analysis as explained by decision theorist Howard Raiffa. Essentially, this method goes a step further from descriptive analysis by first understanding the actual behaviour of real people (Indian retail investors) in mutual fund decisions and then moving to prescriptive analysis, thus enabling providing recommendations and means (interventions) for influence to guide behaviour towards more rational results. The study is ordered in time: it starts with recognizing the range of biases existing, then accurately determining their size and how they are spread among different demographic segments and finally, by simulating their effect on investor decisions in order to lead to the elimination of these biases. For study of our topic, we will use a mixed approach which takes into account numbers as well as opinions of investors to understand which option among these two functions better for Indian retail investors.

The **quantitative approach** reflects numbers that helps in measuring the amount of risks, returns and liquidity involved. On the other hand the qualitative approach reflects upon how investors think, invests and how their emotions drive them while investing in market.

### 7.1 Method and Statistical Models

The study employs a quantitative research design utilizing statistical techniques to systematically analyse the complex interaction between psychological factors and financial outcomes.

**1- Bias Identification and Measurement (Factor Analysis):** The very first stage is to use **Exploratory Factor Analysis (EFA)** for the collection of data from the statements of numerous questionnaires to reduce the data into a few latent behavioural factors (biases) like Overconfidence, Representativeness and Mental Accounting Bias. This process produces measurable factor scores which will be used as continuous variables in the later analytical models.

**2- Segment Susceptibility Analysis (ANOVA and T-tests):** To find out if certain demographic segments are more susceptible (RQ2) to the research question, the author will use **Analysis of Variance (ANOVA)** and **Independent Sample T-tests**. ANOVA is applied to determine if the differences in the mean scores of the behavioural factors extracted (OCB, Herding, etc.) between

groups with three or more categories (e.g., different income levels, educational qualifications, residential locations - urban, semi-urban, rural) are statistically significant or not. T-tests will be applied for two-category variables (e.g., gender, experienced vs. novice investor). Therefore, the results will pinpoint the exact segments that are the most vulnerable to which biases.

**3- Impact Modelling (Multivariate Regression Analysis):** To evaluate the causal effect of the selected biases on investment decisions (RQ1), the study is going to perform Multiple Regression Analysis. This statistical model aims at examining the hypothesized connections between the measured biases (as independent variables, including factors like Loss Aversion and Overconfidence) and dependent variables referring to inefficient investment outcomes. Dependent variables might be such as the frequency of fund switching, portfolio concentration/diversification risk and redemption timing decisions (e.g., selling during market downturns). The regression coefficients will show the extent and the direction of the impact of each behavioural bias on the decision-making process, thus presenting the company with the practical strategies of easing the problem.

## 7.2 Data Source and Type

The study uses a triangulation of primary and secondary data sources to be able to adequately cover both the psychological and market context.

**1- Primary Data:** The primary data will be cross-sectional and quantitative, representing the target population of retail mutual fund investors in urban and semi urban India. The data collection will be carried out through extremely well-planned questionnaires that will use already established psychometric scales, mainly five-point or seven-point Likert-type scales. These questionnaires are aimed at measuring indirectly the cognitive and emotional biases of the respondents' side (for example, sentences related to the Disposition Effect, Overconfidence and Mental Accounting Scenarios). An approximate Convenience Sampling method will be employed, aiming at investors who are geographically and digitally active so as to be able to guarantee the temporal and conceptual scope's relevance.

1. A survey of 200–300 retail investors.

**2- Secondary Data:** The secondary data will be used to give the context, support the problem statements and inform the quantitative variables. The sources are official publications and

financial reports of the regulatory bodies such as the **Securities and Exchange Board of India (SEBI)**, **Association of Mutual Funds in India (AMFI)** and **market research reports**. This data will provide a macro context of AUM growth, retail fund flow patterns, SIP trends and evidence related to the persistent DWR/TWR (dollar-weighted vs. time-weighted returns) gap in Indian equity funds that measures the cost of investor timing that is irrational. In addition, existing academic papers and books, for example, those explaining the standard finance models and behavioural segmentation, that make up of the core of the Literature Review component.

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## **8. Data Collection and Analysis**

This chapter, dives deeply into a comprehensive analysis of the data that was collected to study: what are the behavioural biases in mutual fund investment decisions? The analyses are, in fact, an attempt to answer the core research questions by first of all, figuring out what behavioural biases are dominant, secondly, looking at how these biases affect investor decision, making and thirdly, deciding if some demographic segments are more prone to these biases than others.

Since this is a behavioural study, a mix of descriptive, inferential and segmentation, based analytical techniques were used in Microsoft Excel. These methods were chosen to strike a balance between analytical rigor and interpretability.

### **Demographic Profile of Respondents**

Understanding the sample in terms of age, income, gender and experience is very important because behavioural biases are always influenced by these factors.

### **Key Observations**

Almost 70% of respondents are under the age of 35, thus the sample is very much representative of the trend of younger investors who are increasingly the ones to invest in mutual fund markets. The data set, in this case, is not skewed towards males or females as it has investors from both genders which, in turn, has made possible the gender, based behavioural comparison.

The income levels are also well spread, starting from less than 5 lakh and going up to more than 20 lakh per annum, which, in turn, allows for the investigation of financial vulnerability and risk perception. The samples diversity has, in fact, been a great advantage in terms of the robustness of the segment, level analysis.

### **Reliability and Internal Consistency of Measurement Scales**

The internal consistency of the behavioural bias constructs was evaluated through inter, item correlation analysis, which is an established proxy for reliability when sophisticated psychometric software is not available. For each of the behavioural biases overconfidence, herding, loss aversion, anchoring, mental accounting and regret bias the items showed positive and moderate correlations among themselves, mostly ranging from about 0.35 to 0.71. Such

correlation levels mean that the items within each construct are sufficiently similar to represent a common underlying behavioural factor but not too similar to suggest that they are merely duplicates.

In the areas of behavioural and social sciences, inter item correlations of this magnitude are regarded as signals of good internal consistency, which is equivalent to the situation when a Cronbach's alpha value is satisfactorily high. Moreover, the lack of negative or almost zero correlations supports that the questionnaire items correspond well with their respective constructs. Therefore, the findings imply that the scales used in the study have sufficient reliability, thus it is appropriate to combine the individual items into composite bias scores for use in regression, ANOVA and hypothesis testing.

<b>Item</b>	<b>OC_1</b>	<b>OC_2</b>	<b>OC_3</b>	<b>OC_4</b>
<b>OC_1</b>	1.000	0.603	0.616	0.584
<b>OC_2</b>	0.603	1.000	0.653	0.549
<b>OC_3</b>	0.616	0.653	1.000	0.599
<b>OC_4</b>	0.584	0.549	0.599	1.000

*Inter-Item Correlation Matrix for Overconfidence Bias*

<b>Item</b>	<b>HERD_1</b>	<b>HERD_2</b>	<b>HERD_3</b>	<b>HERD_4</b>
<b>HERD_1</b>	1.000	0.668	0.642	0.695
<b>HERD_2</b>	0.668	1.000	0.677	0.709

<b>HERD_3</b>	0.642	0.677	1.000	0.703
<b>HERD_4</b>	0.695	0.709	0.703	1.000

*Inter-Item Correlation Matrix for Herding Bias*

<b>Item</b>	<b>LOSS_1</b>	<b>LOSS_2</b>	<b>LOSS_3</b>	<b>LOSS_4</b>
<b>LOSS_1</b>	1.000	0.495	0.440	0.519
<b>LOSS_2</b>	0.495	1.000	0.492	0.417
<b>LOSS_3</b>	0.440	0.492	1.000	0.455
<b>LOSS_4</b>	0.519	0.417	0.455	1.000

*Inter-Item Correlation Matrix for Loss Aversion Bias*

<b>Item</b>	<b>ANCHOR_1</b>	<b>ANCHOR_2</b>	<b>ANCHOR_3</b>
<b>ANCHOR_1</b>	1.000	0.431	0.359
<b>ANCHOR_2</b>	0.431	1.000	0.520
<b>ANCHOR_3</b>	0.359	0.520	1.000

*Inter-Item Correlation Matrix for Anchoring Bias*

Item	MENTAL_1	MENTAL_2	MENTAL_3
MENTAL_1	1.000	0.619	0.607
MENTAL_2	0.619	1.000	0.635
MENTAL_3	0.607	0.635	1.000

*Inter-Item Correlation Matrix for Mental Accounting Bias*

Item	REGRET_1	REGRET_2	REGRET_3
REGRET_1	1.000	0.479	0.589
REGRET_2	0.479	1.000	0.465
REGRET_3	0.589	0.465	1.000

*Inter-Item Correlation Matrix for Regret Bias*

### **Explanation and Interpretation**

The inter, item correlation matrices show how closely individual questionnaire items that were designed to measure the same behavioural bias are related in their responses. All the correlations shown are positive and of typical or quite high strength, mostly falling within the 0.350.71 range. This means that the items under each construct are consistently reflecting one and the same underlying psychological tendency. No correlation is so high (above 0.80) that it could be argued the items are merely duplicates, in fact, the items relate but retain enough difference so that each bias construct remains conceptually diverse.

In behavioural finance research, it is very important to validate the measurement instrument before moving on to regression, ANOVA, or hypothesis testing. Inter, item correlation analysis is a recognized measure of internal consistency, especially in the absence of sophisticated psychometric software. Positive and moderate correlations provide the necessary assurance that the composite bias scores (e.g., Overconfidence\_Score, Herding\_Score, LossAversion\_Score) are reliable in a methodological sense and can be subjected to further statistical analysis.

### **Key findings from the inter-item correlations**

The six behavioural biases we studied include overconfidence, herding, loss aversion, anchoring, mental accounting, and regret bias. The items show coherent and stable relations in each bias. There is a very strong correlation between herding and mental accounting which leads to a clear understanding of the constructs. On the other hand, loss aversion and regret have moderate correlation which is consistent with the subtle and situational nature of these biases. In general, the findings validate that the questionnaire is a reliable tool for identifying different behavioural biases and thus, it can be used as a sound basis for further analyses of the effects of these biases on mutual fund investment behaviour.

## **8.1 Descriptive Statistics of Behavioural Biases**

### **Rationale for Using Descriptive Statistics**

Descriptive statistics represent the very first step in the analysis of behavioural data and without them, one cannot get a grasp of the behaviour patterns prevailing among investors in general. It is only after identifying the central tendency and variation of the behavioural biases that one can proceed to relate variables and examine the mechanisms of causality. Average scores are like a simple tool summarizing the typical level and the most common type of each behavioural bias across the entire sample and thus tell psychologists what kind of mental habits are the most widespread among investors. Anyway, standard deviations show how much investors' behaviour varies on each bias. It is a way of picturing how regularly or differently these behavioural biases are manifested by people. Doing this initial analysis is a must if one intends to use inferential methods later on such as correlation, regression, and ANOVA.

<b>Behavioural Bias</b>	<b>Mean Score</b>	<b>Mean Score</b>	<b>Interpretation</b>
Loss Aversion	4.219	Very High	Strong fear of losses
Herding	4.168	High	Strong influence of others
Regret Aversion	3.778	Moderately High	Fear of making wrong decisions
Overconfidence	3.363	Moderate	Self-belief in decision-making
Anchoring	3.293	Moderate	Reliance on reference points
Mental Accounting	3.010	Relatively Lower	Segmentation of money

*Table 1- Mean values of different behavioural biases*

### **Interpretation of Results**

Loss aversion significantly is the most dominant bias. It means that investors treat potential losses much more negatively than equivalent gains. This result firmly fits to Prospect Theory, which argues that losses are experienced as more painful than gains. The next biggest bias is herding behaviour, which means that investors on average follow the crowd instead of doing their own research.

The lower mean scores of mental accounting indicate that, albeit investors do allocate their money into different mental accounts, this bias is less significant compared to that of loss aversion.

## **8.2 Correlation Analysis**

### **Purpose of Correlation Analysis**

Correlation analysis was performed to determine the direction and the strength of the relationships between behavioural biases and variables of investment decision such as switching

frequency and behaviour during market downturn. Through determining these first relationships, correlation analysis offers an understandable rationale for the choice of variables that are further examined for causality by regression and other inferential methods. Besides, it is also a way to dismiss those biases that hardly or are not at all related to decision variables, thus resulting in more focused and interpretable models.

<b>Bias</b>	<b>Correlation with Switching Frequency</b>
Herding Score	<b>0.678</b>
Loss Aversion Score	<b>0.326</b>
Overconfidence Score	-0.030
Anchoring Score	-0.057
Mental Accounting Score	-0.004
Regret Bias Score	-0.031

*Table 2- Key Results (Switching Frequency Correlation Matrix)*

**Interpretation:**

Herding strongly correlates with switching frequency ( $r= 0.678$ ). In other words, the investors, whose behaviour is most influenced by what others do, are the ones in whose portfolios the mutual funds are changed most frequently. Behaviourally, this corresponds to market sentiment, driven reactive decision, making. Loss aversion also has a positive correlation ( $r= 0.326$ ) although it is weaker than that of herding. This means that the investors who are extremely sensitive to losses will change their investments more often in order to avoid the risk of a downside that they perceive. The remaining biases (overconfidence, anchoring, mental

accounting, regret bias) have near, zero or weak negative correlations, which means they do not directly cause the frequent switching of portfolios.

**Conclusion:**

Following the patterns of correlation that were reasonably expected, herding, and loss aversion appear to be the main behavioural biases connected to switching frequency in mutual fund investments. In essence, these results imply that investment switching is mainly driven by changes in emotions of fear of possible losses and decisions that are essentially a result of social influences. Hence, herding and loss aversion not only were among the variables of the main predictors but in fact, these were also probably to be the most influential ones which is why they were taken to the next level in the regressions to check for their causal effect on investment decision, making. The regression model thus remains both theoretically and empirically consistent with the reality of the situation.

<b>Bias</b>	<b>Correlation with Market Downturn Behaviour</b>
Overconfidence Score	<b>0.432</b>
Herding Score	<b>0.319</b>
Loss Aversion Score	<b>-0.463</b>
Anchoring Score	-0.061
Mental Accounting Score	0.014
Regret Bias Score	0.048

*Table 3- Key Results (Market Downturn behaviour Correlation Matrix)*

### **Interpretation:**

Loss aversion is strongly negatively correlated with market downturn behaviour ( $r = 0.463$ ). Because higher scores reflect more aggressive behaviour (continuing/increasing investments), this negative association means that highly loss, averse investors are those who most likely stop or reduce their investments during downturns. Overconfidence is strongly positively correlated ( $r = 0.432$ ), implying that overconfident investors are those who most probably continue or even increase their investments in adverse market conditions. Herding ( $r = 0.319$ ) reveals that socially influenced investors who look to others for guidance tend to follow the prevailing market behaviour, therefore playing an important role in either panic selling or enthusiastic continuation.

**Conclusion:** Investor behaviour during market downturns is basically influenced by two different behavioural biases loss aversion and overconfidence. Loss averse investors in a declining market are likely to stop or reduce investments, which is a panic driven reaction as they give a lot more weight to the avoidance of further losses. On the other hand, overconfident investors tend to show a contrarian or optimistic behaviour when the market is down, hence, they generally continue or even increase their investments during the periods of falling market because they overestimate their ability to predict market recovery or to time their investment decisions efficiently.

These opposite behavioural responses show that market downturn behaviour is not the same for all investors but is largely determined by the psychological biases that are deep down in their nature, thereby, confirming the significance of behavioural finance in the study of investor reactions during market stress situations.

## **8.3 Regression Analysis: Determinants of Switching Frequency**

### **Model Overview**

- **Dependent Variable:** Switching Frequency
- **Independent Variables:** Six behavioural bias scores
- **Observations:** 245

<b>Statistic</b>	<b>Value</b>
R Square	<b>0.613</b>
Adjusted R Square	<b>0.603</b>
F-statistic	<b>62.78</b>
Significance F	<b><math>2.53 \times 10^{-46}</math></b>

*Table 4- Model Fit (Regression Analysis)*

### **Interpretation of Model Fit**

An R of 0.613 means that 61.3% of the variance in switching frequency is accounted for by behavioural biases quite a substantial explanatory power for behavioural data.

The very small Significance F value is in line with this and shows that the overall regression model is statistically significant.

<b>Variable</b>	<b>Coefficient</b>	<b>p-value</b>	<b>Interpretation</b>
Herding Score	<b>1.024</b>	<b>&lt; 0.001</b>	Strong positive impact
Loss Aversion Score	<b>0.787</b>	<b>&lt; 0.001</b>	Significant positive impact
Overconfidence Score	-0.020	0.758	Not significant
Anchoring Score	-0.059	0.460	Not significant
Mental Accounting	0.056	0.412	Not significant

Regret Bias	-0.033	0.659	Not significant
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Table 5- Coefficient Interpretation

### Behavioural Interpretation

One unit increase in herding would result in a change in switching frequency of ~1.02 units, other factors being equal.

In fact, this finding corroborates that herding is the single most influential factor of frequent investment changes. Loss aversion also notably raises switching behaviour, signifying that the fear of losses causes investors to reallocate or withdraw from their investments more frequently. After accounting for herding and loss aversion, the remaining biases do not have a significant impact on switching.

**Conclusion:** Switching behaviour in mutual funds is mainly driven by fear and the crowd, not by confidence.

### 8.4 Regression Analysis: Determinants of Market Downturn Behaviour

Statistic	Value
R Square	<b>0.433</b>
Adjusted R Square	<b>0.419</b>
F-statistic	<b>30.33</b>
Significance F	<b><math>6.20 \times 10^{-27}</math></b>

Table 6 - Model Fit (Regression analysis market downturn behaviour)

Variable	Coefficient	p-value	Interpretation
Overconfidence Score	<b>0.359</b>	<b>&lt; 0.001</b>	Encourages continuation
Herding Score	<b>0.234</b>	<b>&lt; 0.001</b>	Amplifies behaviour
Loss Aversion Score	<b>-0.484</b>	<b>&lt; 0.001</b>	Drives panic reactions

*Table 7 - Key Coefficients and interpretation*

### **Interpretation**

Loss aversion is the factor that has the strongest (negative) effect, which is consistent with the idea that higher loss aversion will considerably increase the likelihood of stopping or lowering investments. Overconfidence is a factor that positively drives the continuation or increase of investing, even during downturns. Depending on whether the market is optimistic or pessimistic, herding can either intensify both behaviours.

### **8.5 ANOVA: Age and Herding Behaviour**

Age Group	Mean Herding Score
Below 25	<b>4.34</b>
25–34	<b>4.42</b>
35–44	3.64
45+	3.50

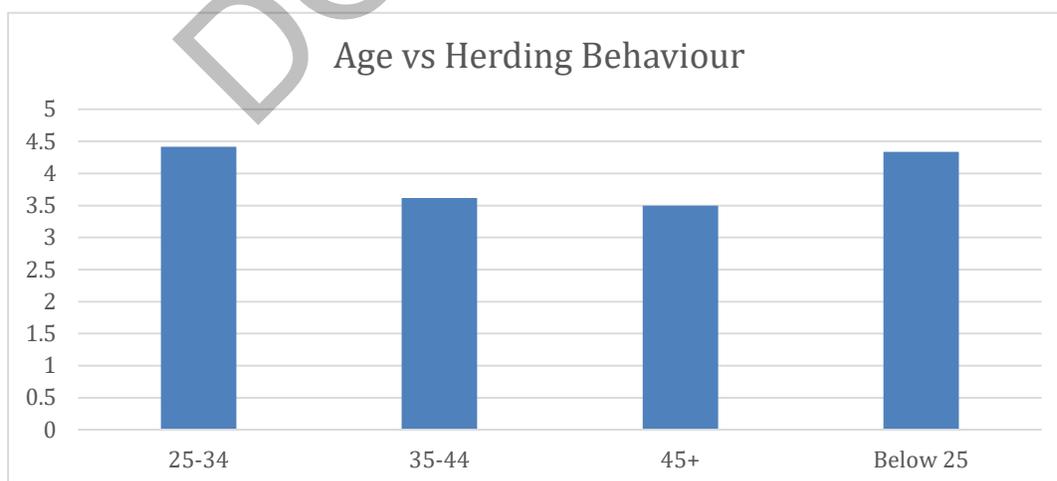
*Table 8- Mean Herding Scores by Age*

## ANOVA Result

- **F = 50.12**
- **p-value =  $2.71 \times 10^{-25}$**

The one way ANOVA findings show that a statistically significant difference in herding behaviour among age groups exist ( $F = 50.12$ ,  $p < 0.001$ ). Compared to older investors, younger investors display far greater herding tendencies, with the 25 - 34 age group (mean = 4.42) and the below, 25 group (mean = 4.34) recording the highest mean scores. Meanwhile, the herding behaviour trend reverses with age as mean scores of 3.64 for the 35 - 44 age group and 3.50 for the 45 and above age group are reported.

These results, therefore, indicate that the variation in age is a strong factor which influences the herding bias. The pattern implies that younger investors are generally more dependent on social references such as what peers are doing, market trends and the most popular investment choices for mutual fund decisions. This behaviour might have been caused by factors such as lack of sufficient investment experience, increased exposure to social and digital sources of financial information and more influence from peers. Elderly investors, conversely, seem to rely predominantly on the experience they have accumulated over the years and on their well, established investment strategies, hence, they are less influenced by the crowd. In sum, the study provides evidence that age is a major factor that influences the susceptibility of herding and thus, there is a need to design investor education and behavioural interventions targeted at the younger investor segments.



## 8.6 ANOVA: Income and Loss Aversion

Income Group	Mean Loss Aversion
Below ₹5 lakh	<b>4.54</b>
₹5–10 lakh	4.18
₹10–20 lakh	3.88
Above ₹20 lakh	<b>3.55</b>

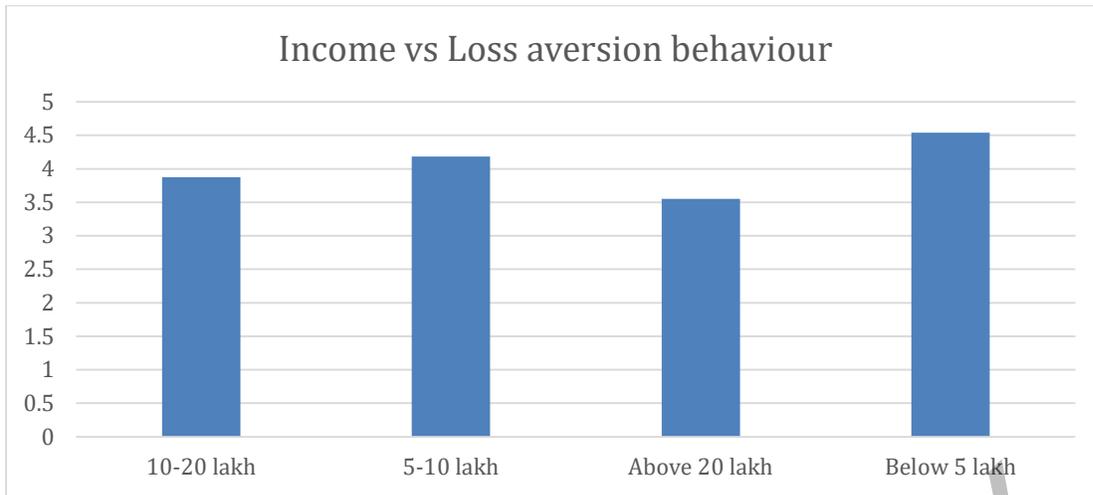
Table 9- Mean Loss Aversion Scores

### ANOVA Result

- **F = 38.13**
- **p-value =  $8.13 \times 10^{-20}$**

The ANOVA results indicate that the lowest, income, group investors (Below 5 lakh) have the highest mean loss aversion score (mean = 4.54), followed by the 5 - 10 lakh group (mean = 4.18), while loss aversion among higher, income investors goes down with mean scores of 3.88 for the 10 - 20 lakh group and 3.55 for those earning above 20 lakh.

The statistically significant p, value is a confirmation that these differences are significant and not just by chance. This trend accords with economic vulnerability theory which posits that lower, income investors conceptualize losses as more intimidating because of their fewer financial reserves and lower risk, bearing capacity, thus resulting in increased loss sensitivity and conservative investment behaviour. Whereas, wealthier investors can better withstand temporary losses and therefore show lower loss aversion, which points out income as a major factor for the level of behavioural bias in mutual fund investment decisions.



### 8.7 T-Test: Gender and Overconfidence

Gender	Mean Overconfidence
Male	3.49
Female	3.16

Table 10- Group Statistics

#### T-Test Result

- $t = 4.89$
- $p\text{-value (two-tailed)} = 2.11 \times 10^{-6}$

The ANOVA findings reveal that investors in the lowest income bracket (Below 5 lakh) have the highest mean loss aversion score (mean = 4.54), followed by the 5-10 lakh group (mean = 4.18), while loss aversion among higher, income investors decreases with mean scores of 3.88 for the 10- 20 lakh group and 3.55 for those earning above 20 lakh. The statistically significant p, value indicates that these differences are real and not caused by random variation. This finding matches with the theoretical foundations which state that low income investors fear losses due to

the lack of financial buffers and generally have low risk appetite which also results in increased sensitivity and conservative investment decisions. On the contrary, high income investors can withstand short term losses and have low loss aversion behaviour which shows that income is a major factor that determines the behavioural patterns of the investors and biases in investments.

## **Conclusion**

The empirical evidence from this study is a strong endorsement of the relevance of behavioural finance theory in explaining how individuals invest in mutual funds. The results show that investor decisions are substantially influenced by psychological biases, which goes against the assumptions of traditional finance that consider investors as fully rational agents.

Behavioural factors that were studied, herding and loss aversion were the most prominent biases that have a significant affect on the decision making of the investors. These factors affect the investment decisions such as switching frequency as well as their reaction during market downturns. The affects of these biases differ across various demographics according to the study. Young investors were found to show more herding behaviour influenced by peer, market trends and access to information from social media and other sources, whereas higher overconfidence bias was seen in male demographics. Similarly lower income group investors were more susceptible to loss aversion compared to higher income groups, a cross demographic analysis also shows lower income and young population is more risk taking compared to low income and older population. These insights show the significance of demographic factors influencing the extent of biases of investor behaviour.

## **9. Managerial Implications, Recommendations and Future Scope**

The results from the above chapter have statistically shown that behavioural biases have significant role in influencing the mutual fund investment decisions. Demographic factors such as age, income gender affect the intensity of these behavioural tendencies, whereas herding and loss aversion seem to be the most influential biases. This chapter focuses on turning these insights into recommendations and new product offerings for Asset management companies, financial advisors and policy makers. The main agenda is to design interventions for these behavioural patterns to improve investor engagement and encourage long term disciplined participation in mutual funds.

### **9.1 Managerial Implications for Asset Management Companies**

Young investors have exhibited higher herding tendencies which leads to increased switching frequency as well as reactive decision making. AMCs can address such behaviours by shifting marketing communication from short term rankings to long term alignment with goals such retirement, education, wealth creation etc, instead of focusing on return based comparisons. Introducing default investment pathways to diversify portfolios unless they choose otherwise. Such interventions can help the young investors to make their decisions based on long term objectives rather than market trends.

To mitigate loss aversion among investors which often leads to panic reactions during market downturns and hence premature exit from mutual fund investments, thus losing long term wealth creation, Asset management companies (AMCs) need to make risk communication less complex by showing losses in a probabilistic and long, term manner, instead of short, term fluctuations. Products focused on capital protection, for example, hybrid or dynamic asset allocation funds, may be used as a means of introduction to investors who are extremely averse to losses. Communicating on a regular basis and emphasizing recovery patterns from history, can be instrumental in changing the temporary view of losses as a natural part of the investment journey. Encouraging diversified portfolios through nudges that highlight concentration risks.

## **9.2 Behavioural Product Innovations**

### **Behaviourally Designed SIP Structures**

Systematic Investment Plans (SIPs) can be made more effective by implementing an auto step up facility, which takes advantage of the user's inertia and does not require the user to actively make a decision. A nudge, which comes as a message, giving assurance to the investor during a market slump that the best decision is to persist with the investment. Using a method similar to a lock, in or exit, friction to discourage the users from making quick decisions and switch recklessly. The features mentioned here are a direct approach to the phenomena of herding and loss aversion as they lessen the possibility of emotionally reacting.

### **Digital Nudges and Personalised Communication**

Considering the substantial impact that digital platforms have on young investors, it is possible to integrate behavioural nudges in apps and investor dashboards in the following ways:

Notifications that prevent consumers from switching in the period of a highly volatile market. Visualisation instruments that demonstrate the expenditure resulting from the frequent switching of the portfolio over time. Individualised communication relying on the behavioural profile (for instance, investors with a high degree of loss aversion can be provided with communications, which are focused on giving them reassurance). These nudges turn digital platforms from mere tools of execution into behavioural coaching systems.

## **9.3 Implications for Financial Advisors**

Financial advisors are instrumental in lessening the negative effects of various behavioural biases on the decisions of investors. This is especially true in the case of mutual fund investments where emotions and market sentiment tend to dictate actions. Results of this research indicate that advisors must go beyond a product, centric approach only and carry out behavioural profiling as part of the first client onboarding process to locate investors who are at the greatest risk of biases like loss aversion, herding, or overconfidence.

Having a knowledge of these psychological traits will enable the advisors to engage with the clients and provide recommendations that are personalized to their needs, hence dealing with the specific behavioural traits instead of using the same advisory model for all.

Advisory conversations, thus should give equal weight to the promotion of behavioural discipline and emotional management as well as to the traditional issues like returns, asset allocation, and risk metrics. A good example would be that very loss averse investors might need comforting and should be given the big picture over time during market downturns, while overconfident investors may find it helpful if there were pre designed steps that prevent them from excessive trading. By intentionally bringing behavioural insights into their advisory practices, financial advisors can guide investors in not making rash decisions, stabilizing their portfolios and establishing more trust and long lasting client relationships.

#### **9.4 Limitations of the Study**

This research offers insights into behavioural biases of investors in mutual fund investment decisions, acknowledging the limitations of the study that may influence the scope and generalisation of the findings, becomes important. Recognising these strengthens the academic integrity of the research but at the same time provides a foundation for future studies in this field.

In this study, behavioural biases were measured through self-report psychometric scales, which always have the problem of response bias. Investors may at times fail to report their attitudes accurately either deliberately or unconsciously in an attempt to please the researchers, not being aware of their true selves or just finding it hard to accurately gauge their own behavioural tendencies. Illustratively, if respondents associate overconfidence or herding behaviour with negative traits, they may be inclined to downplay these behaviours. Consequently, the obtained bias scores might deviate from actual behaviours, especially when the real market stress conditions are considered where the role of emotions is amplified.

The research is concentrated on a narrow set of demographic variables, i.e., age, income, and gender, to determine the susceptibility of the segments to behavioural biases. Although these variables are quite significant, there are other aspects like educational background, financial literacy, investment experience, risk tolerance as well as geographic or cultural influences that have not been considered. The addition of these variables could surely shed more light on the investor's behaviour and increase the goodness of fit of the models.

## 9.5 Scope for Future Research

Future studies can build upon this work by:

- Applying advanced techniques such as structural equation modelling to examine bias interactions.
- Exploring behavioural interventions through field experiments or randomized controlled trials.
- Examining behavioural differences across geographic or cultural contexts.

Such research can deepen understanding of behavioural finance in emerging markets like India.

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## Conclusion

The main objective of the study was to find out the effect of behavioural biases on mutual fund investment decisions of Indian retail investors and to figure out which demographic part of the population is mostly affected by such biases. The data obtained from the surveys and analysed through descriptive, inferential, and regression methods, strongly backs the main idea of behavioural finance that investor decisions are not entirely rational but are habitually influenced by psychological and emotional factors. Thus, the paper questions the assumptions of the standard finance theories and firmly supports the idea that behavioural perspectives are still very applicable in explaining the investment behaviour of the real world.

The results reveal that loss aversion and herding are two major behavioural biases that influence mutual fund investment decisions. Investors have been found to have loss aversion being the main bias, which basically means they are more sensitive to losses than to equivalent gains. During market plunges, this bias is the main reason investors get scared so much that they even stop or reduce their investments at the time when actually the investment discipline over the long, term is essential. On the other hand, herding behaviour doubles the rate of switching and hence it can be seen that investors look for social cues, peer behaviour, and market sentiment more than the independent assessment of the fundamentals. These results jointly clarify why investors repeatedly enter and exit the market at the wrong time and thus have poor investment performance.

The study also reveals that the level of a behavioural bias differs widely among different demographic segments. Young investors are more likely to follow the crowd, which can be attributed to their lack of investment experience, their greater use of digital and social media as sources of information, and their stronger reliance on peers. Investors with lower incomes show a much higher level of loss aversion, which goes along with economic vulnerability theory, as having very little money to fall back on greatly increases ones perception of the harm resulting from losses. It refers to that male investors are more overconfident, which might lead to aggressive or excessive trading acts. These individual segment, level findings make it clear that behavioural biases vary, and there is no one size fits all solution so each one needs to be addressed through different measures.

The study results indicate a managerial perspective where asset management companies and

financial advisors should not only focus on their products but should also implement behaviourally informed investment frameworks. They can intervene in the scenarios of investors' panic fear and crowd mentality by running disciplined investing through goal based investing, systematic investment plan (SIP) designs, behavioural nudges, and better risk communication. Policymakers and regulators, on the other hand can learn to understand that behavioural insights should be embedded in investor education programs and disclosure frameworks in order to enhance the quality of market participation rather than just increasing the volume.

In conclusion, the findings of this research indicate that enhancing mutual fund investment in India should not be limited to overcoming financial literacy, but also involve behavioural issues that hinder investors from making decisions that are in their best interest in the long run. Identifying the main behavioural biases and the most affected groups, the research paves the way for the development of investor, focused products, advisory services and policies that could enable the transformation of idling household savings into productive, long term investments. Hence, behavioural finance is revealing itself not as a alternative to traditional finance, but as an important complement for the creation of a more robust and inclusive mutual fund ecosystem in India.

# Appendix

## Questionnaire used for primary research

**Q1-** Have you invested in mutual funds in the last 12 months? \*

Yes

No

**Q2-** What type of mutual fund investments do you currently hold? \*

Equity Mutual Funds

Debt Mutual Funds

Hybrid / Balanced Funds

Index Funds

ELSS / Tax-saving Funds

**Q3-** Age Group?

Below 25

25–34

35–44

45–54

55 and above

**Q4-** Gender \*

Male

Female

Prefer not to say

**Q5-** Highest Educational Qualification \*

High School/Intermediate

Graduate

Post Graduate

Professional qualification (CA/CFA/MBA etc.)

Other:

**Q6-** Annual Income (INR) \*

Below ₹5 lakh

₹5–10 lakh

₹10–20 lakh

Above ₹20 lakh

**Q7-** Investment Experience in Mutual Funds \*

Less than 1 year

1–3 years

3–5 years

More than 5 years

**Q8-** City type\*

Urban

Semi Urban

**Q9-** How often do you switch between mutual fund schemes? \*

Very rarely  
Occasionally  
Sometimes  
Frequently  
Very frequently

**Q10-** During market downturns, I usually: \*

Stop SIPs  
Reduce investments  
Continue SIPs unchanged  
Increase investments

**Q11-** My mutual fund investment decisions are mostly based on: \*

Long-term goals  
Recent performance  
Advice from others  
Market news / trends

**Q12-** I believe my understanding of mutual funds is better than that of the average investor. \*

Strongly Disagree      1      2      3      4      5      Strongly Agree

**Q13-** I am confident in selecting mutual funds without professional advice.

Strongly Disagree      1      2      3      4      5      Strongly Agree

**Q14-** My past investment successes are mainly due to my own skill.

Strongly Disagree      1      2      3      4      5      Strongly Agree

**Q15-** I believe I can time the market better than most investors.

Strongly Disagree      1      2      3      4      5      Strongly Agree

**Q16-** I prefer investing in funds that many other investors are investing in.

Strongly Disagree      1      2      3      4      5      Strongly Agree

**Q17-** I have invested in funds because friends, family, or peers recommended them.

Strongly Disagree      1      2      3      4      5      Strongly Agree

**Q18-** I feel more confident investing when a fund is popular or trending.

Strongly Disagree      1      2      3      4      5      Strongly Agree

**Q19-** I worry about missing out if many others are investing in a particular fund.

Strongly Disagree      1      2      3      4      5      Strongly Agree

**Q20-** I feel uncomfortable selling a mutual fund at a loss.

Strongly Disagree      1      2      3      4      5      Strongly Agree

**Q21-** I prefer holding a loss-making fund until it recovers.

Strongly Disagree      1      2      3      4      5      Strongly Agree

**Q22-** I fear losing money more than I value potential gains.

Strongly Disagree      1      2      3      4      5      Strongly Agree

**Q23-** I regret investment losses for a long time.

Strongly Disagree      1      2      3      4      5      Strongly Agree

**Q24-** I judge a mutual fund's performance based on its past NAV or returns.

Strongly Disagree      1      2      3      4      5      Strongly Agree

**Q25-** My initial purchase price strongly influences my decision to sell a fund.

Strongly Disagree      1      2      3      4      5      Strongly Agree

**Q26-** I mentally separate my investments into “safe” and “risky” categories.

Strongly Disagree      1      2      3      4      5      Strongly Agree

**Q27-** I invest different amounts based on the purpose of money (e.g., savings vs gains).

Strongly Disagree      1      2      3      4      5      Strongly Agree

**Q28-** I treat SIP investments differently from lump-sum investments.

Strongly Disagree      1      2      3      4      5      Strongly Agree

**Q29-** I avoid changing funds because I fear making a wrong decision

Strongly Disagree      1      2      3      4      5      Strongly Agree

**Q30-** I hesitate to invest in new fund categories due to fear of regret.

Strongly Disagree      1      2      3      4      5      Strongly Agree

**Q31-** Goal-based mutual funds would make me invest more confidently

Strongly Disagree      1      2      3      4      5      Strongly Agree

**Q32** Automatic SIP continuation during market falls would help me stay invested

Strongly Disagree      1      2      3      4      5      Strongly Agree

**Q33** Simple nudges (alerts, reminders) could reduce impulsive decisions \*

Strongly Disagree      1      2      3      4      5      Strongly Agree

**Q34-** Visual tools showing long-term wealth loss due to stopping SIPs would influence my behaviour \*

Strongly Disagree      1      2      3      4      5      Strongly Agree

**Q35-** I would prefer products designed to limit frequent switching \*

Strongly Disagree      1      2      3      4      5      Strongly Agree

**Q36-** What is the biggest psychological barrier that stops you from investing more in mutual funds? \*

Fear of losing money due to market volatility

Uncertainty about future returns

Lack of confidence in my own investment decisions

Fear of making a wrong decision and later regretting it

Preference for “safer” traditional investments (FDs, gold, insurance)

Influence of negative past investment experiences

Confusion due to too many mutual fund options

Lack of trust in fund managers or financial institutions

Dependence on others' opinions before investing

Difficulty in understanding mutual fund products

None of the above

Other:



[Form Link](#)



[Excel sheet for data collection and analysis](#)

## References

1. “5 Behavioural Biases That Can Impact Your Investing Decisions.” 2025. *William & Mary Mason* (blog). May 8, 2025. <https://online.mason.wm.edu/blog/behavioural-biases-that-can-impact-investing-decisions>.
2. Alexander, Gordon J., Jonathan D. Jones, Peter J. Nigro, University of Minnesota, Risk Management Division, Office of Thrift Supervision, Washington, DC and Policy Analysis Division, Office of the Comptroller of the Currency, Washington, DC. 1998. “Mutual Fund Shareholders: Characteristics, Investor Knowledge and Sources of Information.” *Financial Services Review*. [https://doi.org/10.1016/S1057-0810\(99\)00023-2](https://doi.org/10.1016/S1057-0810(99)00023-2).
3. Aqham, Ahmad Ashifuddin, Eny Endaryati, Vivi Kumalasari Subroto and Robby Andika Kusumajaya. 2024. “Behavioural Biases in Investment Decisions: A Mixed-Methods Study on Retail Investors in Emerging Markets.” *Journal of Management and Informatics* 3 (3): 568–86. <https://doi.org/10.51903/jmi.v3i3.63>.
4. Bikhchandani, Sushil and Sunil Sharma. 2000. “Herd Behaviour in Financial Markets.” *IMF Staff Papers* 47 (3): 279–310. <https://doi.org/10.2307/3867650>.
5. Choi, Darwin, C. Bige Kahraman, Abhiroop Mukherjee, Hong Kong University of Science and Technology, SIFR and Stockholm School of Economics. 2013. “Performance-Chasing Behaviour and Mutual Funds: New Evidence from Multi-Fund Managers.” [https://www.wiwi.hu-berlin.de/en/Professorships/bwl/finance/conferences/conference-2013/papers/choi\\_kahraman\\_mukherjee.pdf](https://www.wiwi.hu-berlin.de/en/Professorships/bwl/finance/conferences/conference-2013/papers/choi_kahraman_mukherjee.pdf).
6. “Disposition Effect - the Decision Lab.” n.d. The Decision Lab. Accessed October 15, 2025. <https://thedecisionlab.com/biases/disposition-effect>.
7. Goetzmann, William N. and Nadav Peles. 1997. “COGNITIVE DISSONANCE AND MUTUAL FUND INVESTORS.” *The Journal of Financial Research* 20 (2): 145–58. <https://doi.org/10.1111/j.1475-6803.1997.tb00241.x>.
8. Jiang, Hao, Michela Verardo, Michigan State University and London School of

Economics. n.d. "Does Herding Behaviour Reveal Skill? An Analysis of Mutual Fund Performance." Journal-article. *Does Herding Behaviour Reveal Skill? An Analysis of Mutual Fund Performance*.

[https://eprints.lse.ac.uk/86372/7/Verardo\\_JF\\_HerdingSkill.pdf](https://eprints.lse.ac.uk/86372/7/Verardo_JF_HerdingSkill.pdf).

9. Kahneman, Daniel and Amos Tversky. 1979. "Prospect Theory: An Analysis of Decision Under Risk." *Econometrica* 47 (2): 263. <https://doi.org/10.2307/1914185>.
10. Koch andrew. 2016. "Herd Behaviour and Mutual Fund Performance." *Management Science* 63 (11): 3849–73. <https://doi.org/10.1287/mnsc.2016.2543>.
11. Li, Wei, Ashish Tiwari and Lin Tong. 2014. "Investment Decisions Under Ambiguity: Evidence From Mutual Fund Investor Behaviour." Journal-article. *Finance and Business Economics Area, School of Business, Fordham University*. <https://www.biz.uiowa.edu/faculty/atiwari/Ambiguity.pdf>.
12. "Loss Aversion - the Decision Lab." n.d. The Decision Lab. Accessed October 15, 2025. <https://thedecisionlab.com/biases/loss-aversion>.
13. Makwana, Chetna and Narmada College of Management. 2020. "Investors Behaviour: The Impact of Heuristic and Biases on Mutual Fund Investment." *Academy of Accounting and Financial Studies Journal* 24 (4): 1–08.
14. Parker, Tim. 2025. "4 Behavioural Biases and How to Avoid Them." Investopedia. May 21, 2025. Accessed October 15, 2025. <https://www.investopedia.com/articles/investing/050813/4-behavioural-biases-and-how-avoid-them.asp>.
15. Quispe-Torreblanca, Edika, John Gathergood, George Loewenstein and Neil Stewart. 2024. "Investor Logins and the Disposition Effect." *Management Science*, April. <https://doi.org/10.1287/mnsc.2022.00359>.
16. Rai, Rishita and Inventure Academy, Bengaluru. 2024. "Behavioural Biases and Investment Decision-Making in India: A Study of Stock Market Investors." Journal-article. *IRJEMS International Research Journal of Economics and Management Studies*. <https://doi.org/10.56472/25835238/IRJEMS-V3I11P102>.

17. “Rational Investing in an Age of Uncertainty | Morgan Stanley.” n.d. Morgan Stanley.  
<https://www.morganstanley.com/articles/behavioural-finance>.
18. S, Sahana. 2024. “Study of Behavioural Bias on Mutual Fund Investor in Karnataka.”  
*Journal of Emerging Technologies and Innovative Research* 11 (8). <https://www.jetir.org>.
19. Sharma, Madhuri and Dr. Sameer Varma. 2025. “Demographic and Psychographic Influences: Unveiling Behavioural Biases and Mutual Fund Choices Among Investors.”  
*Advances in Consumer Research*, 298–307. <https://acr-journal.com/>.
20. Sirri, Erik R., Peter Tufano, Harvard Business School and Securities and Exchange Commission. 1998. “Costly Search and Mutual Fund Flows.” *The Journal of Finance* LIII (5): 1589–90.
21. Statman, Meir and CFA Institute Research Foundation. 2019. “The Second Generation.”  
*CFA Institute Research Foundation / Monograph*.
22. Venkatesh, P., M. Manikandan, M. Ramu, P. Roger Peter and Sri Sairam Engineering College. n.d. “Behaviour of Mutual Funds Investors – a Study With Special Reference to Chennai City, India.”
23. Weiss-Cohen, Leonardo, Philip W. S. Newall and Peter Ayton. 2021. “Persistence Is Futile: Chasing of Past Performance in Repeated Investment Choices.” *Journal of Experimental Psychology Applied* 28 (2): 341–59. <https://doi.org/10.1037/xap0000358>.
24. “What Drives the Disposition Effect? An Analysis of a Long-Standing Preference-Based Explanation.” 2009. *THE JOURNAL OF FINANCE*. Vol. LXIV.  
<https://www.princeton.edu/~wxiong/papers/disposition.pdf>.



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