

**A Study on Factors Affecting Investment Behaviour of
Female Academics in Kolkata District**



**Thesis submitted to the Degree of Doctor of Philosophy In
Commerce**

by

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ABSTRACT

The present study titled “*A Study on Factors Affecting Investment Behaviour of Female Academics in Kolkata District*” examines the multifaceted determinants that shape the financial decision-making of female academicians within an urban Indian context. Despite possessing strong educational and professional credentials, female academics often demonstrate conservative investment behaviour and low engagement with market-linked products. This research investigates how financial literacy, digital competency, cognitive biases, personality traits, and socio-economic background jointly influence their investment behaviour, conceptualized through the dimensions of Risk Capacity, Investment Strategy, and Investment Priorities.

The study employs a descriptive quantitative design using primary data from 591 female academicians across the four postal zones of Kolkata. A structured questionnaire was used to capture the constructs of financial literacy (knowledge, attitude, and behaviour), digital skills, cognitive biases, and Big Five personality traits. Reliability of all scales was verified (Cronbach’s $\alpha > 0.90$). Ordinal Principal Component Analysis (OPCA) was applied for data reduction and construct validation, followed by Binary Logistic Regression to determine the directional and statistical influence of each predictor on investment behaviour.

The results demonstrated that financial attitude emerged a significant determinant, exerting influence on both risk capacity and investment strategy, whereas financial knowledge and financial behaviour showed limited direct impact. Digital skills significantly enhanced respondents’ ability to engage with market-based instruments and rely on professional financial advice, reflecting the growing role of digital competence in modern investment practices. In contrast, self-referential cognitive biases (anchoring, overconfidence, familiarity, and self-serving biases) were found to negatively affect rational financial judgment. Among personality traits, adaptive sociability, an integrated factor comprising agreeableness, conscientiousness, and emotional stability, was identified as a significant predictor of rational, goal-oriented, and risk-aligned investment behaviour.

To deepen understanding of investor perception, the study categorizes respondents into four behavioural profiles derived from the interaction of Risk Capacity (RC) and Investment Strategy (IS): Proactive Investors, Aggressive but Unstructured Investors, Cautious Planners, and Conservative Investors. Most respondents fell within the Proactive and Cautious categories, reflecting informed caution rather than risk aversion. This categorization serves as a diagnostic framework for profiling financial perception and guiding targeted financial empowerment programs.

The study contributes to the behavioural finance literature by integrating gender, digital, and psychological perspectives into a unified empirical framework. Policy recommendations emerging from the research highlight the importance of enhancing financial attitude and digital literacy, developing targeted behavioural training to mitigate cognitive biases, and institutionalizing investor profiling mechanisms within educational and financial institutions to promote informed, inclusive, and strategic participation of women in financial markets.

Keywords: Investment Behaviour, Financial Literacy, Digital Skills, Cognitive Biases, Personality Traits, Ordinal Principal Component Analysis, Investor Categorization, Female Academics, Behavioural Finance.

1

CHAPTER 1

Introduction to the Study

CHAPTER 1

INTRODUCTION TO THE STUDY

1.1 Origin of the Research Study

Humans are completely logical decision makers who carefully consider all available information before making choices that would maximise results, according to both the economic man model and classical economic theory. For many years, the primary premise of most financial studies was that investors were completely rationale. It was believed that the expectations and responses of these logical investors alone were the only factors influencing asset prices, which in turn affected supply and demand and, ultimately, the price. The term "rationality" describes the thorough and impartial consideration of all known and latent information to reach "correct" conclusions that optimise the decision maker's reward.

Every problem had a single, best, and black-and-white solution since all people were seen to be equally logical. There were no grey zones. Because of its intrinsic simplicity, the rationality model was able to persist for a very long time supported by the then academic scholars in finance. But after many decades of dominance, a new generation of psychologists and practitioners questioned the rationality assumption, which significantly reduced the fervour of academic scholars for the concept of rationality. As a result of these shifting perspectives, many experimental researches were done to demonstrate human irrationality. Numerous tests and investigations have revealed that people are not as logical and mechanical in real life as previously believed. It was further demonstrated that, whether consciously or unconsciously, most normal people consider a variety of non-rational elements while making decisions rather than only concentrating on maximising results. Due to the establishment of grey areas regarding the "best" solution for each person or circumstance, financial researchers were compelled to reject the complete rationality hypothesis and acknowledge the influence of each person's distinct traits on his choices.

Investment behaviour is a critical aspect of financial decision-making, reflecting an individual's economic priorities, risk appetite, and long-term goals. While not everyone is a financial expert, every individual regardless of profession engages in some form of investment, whether in stocks, real estate, savings, or retirement plans. The psychological underpinnings of these decisions, the anxiety over high-risk investments, the satisfaction of securing financial stability, or the euphoria of profitable returns are all indicators of the complex interplay between cognition, emotion, and economics.

Female academics, as a distinct demographic, represent a unique intersection of intellectual rigor, financial literacy, and socio-cultural influences. Their investment behaviour is shaped not only by personal financial goals but also by institutional policies, societal expectations, and gender-specific challenges. Unlike generic consumers, female academics in Kolkata navigate

a dual identity: as professionals in the education sector and as individuals making strategic financial choices in a rapidly evolving economic landscape.

This research focuses on the investment related decisions of individual investors (female academics). Despite a variety of researches in the said topic, the existing state of knowledge about the investor behaviour is still at the embryonic stages. Investor behaviour is "predictably irrational," according to behavioural finance literature (Arieley, 2008). It is also suggested by the studies that several non-economic factors influence investor behaviour (Nagy & Obenberger, 1994). This implies that investors can only use this theory of investment behaviour to a certain extent. For this reason, a new paradigm that considers behavioural finance, and traditional finance is needed to shed more light on how individual investors make investment decisions.

1.2 Background of the Study

Investment behaviour refers to the decision-making processes and actions individuals undertake when allocating financial resources to various investment avenues such as stocks, mutual funds, insurance, real estate, or pension schemes. Financial theories like the Expected Utility Theory (Von Neumann & Morgenstern, 1944) and (Markowitz, 1952) traditionally assumed that investors act rationally to maximize returns and minimize risk. However, the rise of behavioural finance has contested these traditional assumptions, demonstrating that individuals frequently depart from rational decision-making due to psychological biases and emotional factors." (Kahneman & Tversky, 1979) (Thaler, 1985) .

Over the last two decades, several studies have examined the impact of non-economic factors such as personality traits, cognitive biases, emotions, and heuristics on financial decisions-making.(Barber & Odean, 2001) observed that overconfidence leads to excessive trading, while (Shefrin & Statman, 1985) argued that mental accounting and loss aversion influence portfolio allocation. These findings have broadened the horizons of investment behaviour research, highlighting the need for tailored analyses that account for personal attributes and demographic factors.

Gender and investment behaviour have also become important dimensions of study. Women are often found to be more risk-averse, conservative in portfolio choices, and less confident about financial decision-making compared to men (Jianakoplos & Bernasek, 1998) (Sundén & Surette, 1998).However, such generalizations may overlook subgroup-specific behaviours, particularly among professionally empowered women like female academics, who possess both economic agency and educational capital. Despite this, their investment behaviour remains underexplored in both global and Indian contexts.

In India, women's increasing participation in the workforce, especially in the education sector, has not necessarily translated into active and informed investment engagement. According to the AISHE report 2022, women now make up a substantial and growing proportion of India's academic workforce and women in academia form a significant portion of the organized workforce in urban areas, yet their engagement with formal investment products remains inconsistent and often passive. (Chatterjee & Das, 2016) found that urban Indian women,

despite having access to formal employment, tend to rely on traditional savings instruments such as fixed deposits or gold, and are less likely to invest in riskier, market-linked products.

Moreover, in the Indian sociocultural context, financial decision-making is still largely male-dominated, and women even those in intellectually rigorous fields often defer investment decisions to spouses or male relatives. This tendency can be attributed to multiple factors, including lack of financial literacy, low risk tolerance, societal expectations, or limited access to credible financial advice (Bhushan & Medury, 2013). At the same time, digital transformation in financial services presents both opportunities and challenges. While digital platforms have increased access to investment options, lack of adequate digital skills among some segments of women may hinder their informed participation.

Additionally, personality traits, as captured by the Big Five Model Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism (Costa & McCrae, 1999) have been found show notable associations with investment behaviours. Study by (Mayfield, Perdue, & Wooten, 2008) indicated that people with high conscientiousness seem to value planning and saving, whereas the ones with higher emotional stability often show a better risk tolerance. Biases like familiarity bias, overconfidence, and anchoring, also seem to distort investment choices of people, especially when financial knowledge is not sufficient.

Given these intricacies, it is essential to examine investment behaviour because of multiple interacting factors. Focusing on female academics in Kolkata a demographic characterized by advanced education, stable incomes and information access offers a distinctive vision to explore how behavioural tendencies, knowledge, skills, and psychological traits collectively shape financial decision-making of individuals.

Thus, the study targets to bridges behavioural finance, financial literacy, and gender studies to dissect the interaction of psychological attributes, cognitive biases, and informational access in understanding investment priorities, strategies, and risk capacity of Kolkata's female academics.

1.3 Rationale of the Study

An increased emphasis on financial inclusion and empowering women to participate actively in economic decision-making has been observed in the last few years. In India, particularly in urban setups, a striking paradox is seen to emerge: “despite possessing significant intellectual capital and financial independence, women often display cautious financial behaviours.” They seem to favour traditional savings instruments over riskier investments, exhibit hesitation towards strategic financial decision-making, and mostly delegate or avoid active involvement in investment decision making. Urban women especially those with higher education continue to portray limited participation in strategic investment activities. (Gudjonsson, Minelgaite, & al, 2022). Instead, they seem to prefer low-risk savings options or defer investment decisions to spouses or family members (Susmitha & Asha, 2018).

This pattern is especially evident among female academics, who are characterized by high intellectual qualities, occupational security, and financial independence. Nonetheless, empirical evidence suggests a reluctance to involve with market-based investments such as

stocks or mutual funds, favouring otherwise secure, traditional saving instruments (Ganapathi & Madhavan, 2021).

This gap in behaviour highlights the importance of exploring various factors like cognitive biases, personality traits and digital proficiency that may affect the shaping of financial decision-making today. Additionally, the disparity is exacerbated by varying levels of financial literacy—particularly the attitudinal and behavioural aspects, which frequently take precedence over theoretical knowledge in actual financial decisions."

While financial literacy is crucial, it alone does not ensure sound investment behaviour. Attitudes and motivations related to financial management significantly influence decision-making, especially among women. Financial attitude defined as the mindset and motivation towards managing finances has been shown to play a critical role in shaping investment choices (Atkinson & Messy, 2012) (OECD, 2016). The advent of digital financial services such as mobile banking, UPI, online investing platforms has expanded opportunities for investment. However, digital literacy remains uneven, posing barriers to effective participation, particularly among women. Limited familiarity with technology can lead to exclusion from the benefits of digital financial markets, thereby compounding gender-based disparities (Tok & Heng, 2017)

Behavioural finance research identifies numerous biases that influence investment behaviour. Biases such as overconfidence, anchoring, and mental accounting often lead to suboptimal financial decisions. Indian investors, in particular, frequently exhibit herding behaviour and a preference for familiar investment options, symptoms of limited financial education and susceptibility to cognitive biases (Kahneman & Tversky, Prospect Theory: An Analysis of Decision under Risk, 1979).

The central research questions this study aims to address is: Why do intellectually and economically competent female academics in Kolkata often refrain from engaging in risk-aligned, strategic investment behaviour? Furthermore, how do cognitive biases, financial literacy, digital skills, and sociocultural factors interact to influence their financial decision-making?

This inquiry is timely and significant, considering India's ongoing efforts towards financial inclusion, digital empowerment through initiatives like Digital India, and women's increasing participation in the economy. By examining these intersecting factors, the study aims to contribute to both academic knowledge and policy development targeted at enhancing women's economic agency.

1.4 Motivation of the Study

The motivation for this study stems from the growing recognition that women, particularly educated professionals, play a crucial role in shaping household and societal financial well-being, yet their investment patterns often remain underexplored in academic research. In India, despite increasing female participation in higher education and academia, women's financial decision-making is still influenced by socio-cultural norms, limited access to professional investment advice, and varying levels of financial literacy and digital competence. Female academics represent a unique group intellectually equipped, professionally engaged, and often

financially independent whose investment behaviour can provide critical insights into the interplay of cognitive biases, personality traits, financial literacy, and digital skills. Understanding the factors that shape their investment choices is essential not only for bridging gender gaps in financial participation but also for designing targeted financial education programmes, policy measures, and digital inclusion initiatives. This research is thus motivated by the need to generate empirical evidence in the Indian context, particularly in Kolkata, to increase women's participation in structured investment avenues, promote informed financial decision-making, and contribute to sustainable economic empowerment.

1.5 Research Problem

“A well-structured research problem identifies gaps in existing knowledge, unresolved conceptual issues, or real-world complexities that demand systematic inquiry (Bryman, 2007).” This study addresses a critical yet underexplored question at the intersection of behavioural finance and investment decision-making.

Key Aspects of the Research Problem

1.The Specific Issue

Despite increasing educational attainment and workforce participation among women, their involvement in strategic financial decision-making particularly investments remain limited. This study investigates how financial literacy, digital skills, cognitive biases, and personality traits shape the investment behaviour of female academics, a group often overlooked in financial research.

2.Significance of the Problem

Financial empowerment is incomplete without active investment autonomy. While urban professional women in India possess economic and educational agency, behavioural and psychological barriers often hinder their confidence in making independent investment decisions. Addressing this gap is essential for fostering inclusive financial participation and designing gender-responsive policies.

3.Contribution to Existing Knowledge

This study advances the field by integrating rational factors (financial knowledge, digital proficiency) with behavioural and psychological constructs (cognitive biases, Big Five personality traits). Using Ordinal Principal Component Analysis (OPCA) and logistic regression, it empirically examines these interactions among female academics in Kolkata a homogenous yet underrepresented group. The findings will provide a structured framework for understanding predictors of risk appetite, investment strategies, and reliance on financial advice sources.

1.6 Aim of the Study

“A research aim is a broad statement that defines the primary purpose of the study. In this research, the main aim has been systematically divided into specific objectives and research questions to provide a clear and structured direction for the empirical investigation (Thomas &

Hodges, 2010).” The scope of the study establishes its boundaries, ensuring feasibility within a reasonable timeframe while maintaining depth and rigor (Krathwohl, 1962).

Core Aim of the Study

The study primarily aims to explore the factors that shape the investment behaviour of female academics in Kolkata, with a focus on financial literacy, digital skills, cognitive biases, and personality traits. This focus stems from the observation that while female academics are an educated and financially independent group, their investment behaviours remain understudied in behavioural finance research. The detailed research objectives are elaborated in the following section.

1.7 Research Methods and Materials

This section outlines the methodological framework adopted for the study, including its design, sampling strategy, data collection, and analytical techniques. The research employs both quantitative and qualitative approach to examine the factors shaping the investment behaviour of female academics in Kolkata.

Research Design

A descriptive-analytical design with data collected through a structured questionnaire was used in the study. The study combines insights from behavioural finance, digital literacy, and psychology to assess how financial literacy, cognitive biases, digital skills, and personality traits influence investment decisions.

Sampling and Data Collection

The target population included female academics from both government and private higher educational institutions in Kolkata. A combination of multistage and purposive sampling technique ensured representation across designations and institution types.

Data Collection Phases:

1. **Pilot Study:** Conducted with 100 respondents to pretest and refine the questionnaire.
2. **Final Study:** Administered to 591 respondents using a structured survey.

Instrumentation and Measures

The questionnaire included five sections:

1. **Socio-economic profile**
2. **Financial Literacy** (Financial Knowledge, Financial Attitude, Financial Behavior)
Adapted from OECD/INFE (2020)
3. **Digital Skills** (capturing the Digital Exposure & Proficiency of the respondents)
4. **Personality Traits** (Based on the Big Five Model: Openness, Conscientiousness, Extraversion, Agreeableness, Neuroticism.)

5. **Cognitive Biases** (Anchoring, Overconfidence, Confirmation, Familiarity, Cognitive Dissonance, Self-Serving Bias, Decision Paralysis)
6. **Investment Behaviour** (Measured across Risk Capacity, Investment Strategy, and Investment Priority.)

Most items used a 5-point Likert scale.

Data Analysis

- **Principal Component Analysis (OPCA):** was used to reduce dimensionality and validate the constructs.
- **Binary Logistic Regression:** Assessed the association between dependent and independent variables of the study.
- **Descriptive and Inferential Statistics:** to summarize the demographic profile of respondents and to examine patterns, trends, and differences within the data, providing foundational insights for further multivariate analysis.

1.8 Significance of the Study

The importance of this research lies in its attempt to address key gaps in understanding gender-specific investment behaviours within the Indian context, particularly among a highly educated and financially stable subgroup—female academics. While prior research has examined the financial behaviours of women broadly or among professionals in specific sectors, there is a notable lack of focus on the investment decision-making patterns of female academicians, especially in urban India (Chatterjee & Das, 2016).

1. Theoretical Contribution

This study advances the field of behavioural finance, which emphasizes the influence of psychological and emotional factors on investor behaviour—challenging traditional assumptions of rationality. By integrating the Big Five personality traits model, the research introduces a novel psychological dimension to understanding financial decision-making among Indian women—a perspective largely missing from existing regional literature.

Furthermore, by examining cognitive biases including overconfidence, anchoring, confirmation bias, and familiarity bias the study deepens our comprehension of how irrational behavioural tendencies influence risk assessment, asset allocation, and overall investment choices (Ricciardi & Simon, 2000). These constructs are particularly relevant in the Indian investment environment, where informal knowledge networks and media-driven narratives often shape investor perceptions.

2. Policy Implications

The findings of this research are highly pertinent for policymakers and financial educators aiming to develop targeted financial literacy and inclusion initiatives. Despite government several initiatives like the “RBI’s Financial Literacy Week, the Mahila Samman Savings Certificate (MSSC), Stand-Up India, and the Digital India Programme etc.,” active

participation of women in financial markets remains disproportionately low. Research indicates that while these schemes have improved access to banking services and digital infrastructure, they have not translated into significant increases in women's investment activity (RBI, 2022). The study's insights will help design strategies that extend beyond merely providing access, by addressing the behavioural and cognitive barriers that hinder women from participating actively in formal investment avenues.

For instance, (OECD/INFE International Survey of Adult Financial Literacy Competencies, 2016) emphasizes that women globally tend to score lower on financial literacy assessments not because of lack of exposure but due to lower financial confidence and decision-making autonomy. In India, where socio-cultural norms intersect with digital divides, the situation is further complicated particularly for working women balancing professional, family, and societal roles.

3. Educational and Institutional Contributions

By focusing on female academics in Kolkata, the study offers a unique institutional perspective. Academicians are typically perceived as rational and well-informed decision-makers due to their educational background and profession. If behavioural biases and informational deficits are evident even within this segment, it indicates systemic issues within financial education and empowerment initiatives. Educational institutions, universities, and human resource departments can leverage these insights to organize tailored financial literacy programs that consider the cognitive profiles and personality traits of their staff.

4. Addressing an Underexplored Demographic

This research fills an important empirical void by exploring the intersection of gender, profession, and behavioural tendencies in investment behaviour. Existing literature tends to generalize women's financial behaviours or focus on income disparities between rural and urban settings. Few studies have examined how digital competencies, financial attitudes, and psychological traits interact specifically within a professional female cohort in India. (Lusardi & Mitchell, 2014) argue that understanding heterogeneity in financial decision-making is essential for effective policy intervention. This study responds to that call by offering insights into a professional, digitally literate, yet behaviourally complex group of women often presumed—though not conclusively evidenced—to be financially empowered.

5. Foundation for Future Research

Finally, this study establishes a basis for future longitudinal and comparative investigations. Its comprehensive framework—integrating financial literacy, digital skills, personality traits, and behavioural biases—can be adapted to other professional groups, such as healthcare workers, IT professionals, or educators, across different urban regions. Additionally, it opens avenues for cross-gender and intra-professional comparisons in financial behaviour within similar demographic segments.

1.9 Scope of the Study

The scope of a research study establishes its conceptual boundaries and contextual parameters, defining both the thematic focus and the limitations within which the investigation operates (Creswell & Creswell, 2018). This study is carefully delineated in terms of its target population, thematic coverage, and methodological constraints to ensure precision and relevance.

Population and Demographic Focus

The research exclusively examines female academic professionals employed in colleges and universities across Kolkata, West Bengal. The study specifically targets urban, educated women in academia who have at least basic financial access and autonomy, whether individual or shared.

Thematic Coverage

The study investigates the investment behaviour of this demographic, analysing how it is influenced by the following key determinants:

- **Financial Literacy:** Including financial knowledge, attitudes, and behavioural patterns.
- **Digital Skills:** Proficiency in using online financial tools and platforms.
- **Cognitive Biases:** Such as overconfidence, anchoring, familiarity bias, and decision paralysis.
- **Personality Traits:** Assessed through the Big Five model (openness, conscientiousness, extraversion, agreeableness, and neuroticism/emotional stability).

Additionally, the research explores the moderating role of socio-economic factors—such as age, income, marital status, professional designation, and family size on the relationship between behavioural traits and investment decisions.

Geographical and Temporal Boundaries

- **Geographical Scope:** Limited to the urban setting of Kolkata district, excluding rural academic professionals.
- **Temporal Scope:** Primary data collection was conducted during the 2022–2024, with findings contextualized within this period.

Methodological Constraints

The study relies on self-reported, perception-based data gathered through structured questionnaires. It does not incorporate qualitative methods such as interviews or narrative analysis. Furthermore, the scope explicitly excludes:

- Male respondents,
- Women in non-academic professions, and
- Students, to maintain focus on a homogenous, intellectually empowered female cohort.

Rationale for Scope Definition

By clearly defining the sample frame, thematic constructs, and analytical limitations, this study ensures methodological rigor and thematic specificity. This focused approach enables the generation of targeted, actionable insights into gendered financial behaviour and behavioural economics in the Indian context.

1.10 Limitations of the Study

“While this research provides valuable insights into the investment behaviour of female academics, it is important to acknowledge certain constraints that may affect the interpretation and applicability of the findings (Price & Murnan, 2004).” These limitations stem from methodological choices, scope boundaries, and practical considerations:

1.Geographical Constraints

The study focuses exclusively on urban academic professionals in Kolkata, limiting the generalizability of results to rural areas or other regional contexts with different socio-economic dynamics.

2.Demographic Specificity

By concentrating solely on female academics, the findings may not extend to male professionals or women in other occupations, potentially restricting broader applicability.

3.Self-Reporting Biases

The reliance on self-reported questionnaire data introduces possible response biases, particularly regarding sensitive financial topics where participants might provide socially desirable answers rather than fully accurate responses.

4.Temporal Limitations

The cross-sectional design captures data at one point in time, preventing analysis of behavioural changes or long-term trends that could be revealed through longitudinal research.

5.Behavioural Construct Coverage

While major cognitive biases are examined, other potentially influential factors like financial anxiety, emotional intelligence, or additional heuristic biases etc were not included in the assessment framework.

6.Digital Access Assumptions

The digital skills assessment presumed uniform technological access among respondents, potentially overlooking disparities in internet reliability or device availability that could affect digital financial behaviours.

These limitations highlight opportunities for future research to expand upon this foundation through:

- Comparative studies across geographic regions and occupational groups

- Mixed-method approaches combining quantitative and qualitative data
- Longitudinal designs tracking behavioural changes over time

By addressing these areas, subsequent research can develop a more comprehensive understanding of women's financial decision-making processes in evolving economic and technological landscapes.

1.11 Organization of the Thesis

The present thesis is structured into five coherent chapters that sequentially trace the evolution of the research problem, conceptual grounding, methodology, empirical analysis, and final recommendations.

Chapter 1, titled *“Introduction to the Study,”* lays the foundational groundwork by tracing the origin and background of the research, establishing the rationale for the study, and articulating a clear problem statement. It introduces the key research questions and explicates the primary and secondary aims of the study. The chapter further discusses the research design and methodology adopted, highlights the significance of the study, defines its intended scope, and candidly acknowledges the limitations encountered during the research process. This chapter holistically frames the conceptual and methodological orientation of the research.

Chapter 2, *“Literature Review, Research Gap and Objectives of the Study,”* presents a systematic review of relevant studies on financial literacy, digital skills, personality traits, cognitive biases, and investment behaviour, particularly within the Indian and female academic contexts. It identifies critical gaps in existing scholarship and derives the core research objectives that guide the rest of the inquiry.

Chapter 3, titled *“Theoretical Framework,”* delineates the conceptual foundations that inform the study. It elaborates on the constructs and sub-constructs under investigation, situates them within relevant psychological and behavioural finance theories, and proposes a theoretical model linking the independent and dependent variables.

Chapter 4, titled *“Sample of the Study & Research Methodology,”* this section details the study's methodological approach, including sampling procedures, respondent's profiles, and data collection techniques. It explains the development and validation of research instruments, covering scale construction, reliability testing (using measures like Cronbach's alpha), and validity assessment. Additionally, it clarifies how key concepts were operationalized and measured. The chapter emphasizes methodological transparency and the systematic steps taken to ensure rigorous empirical analysis throughout the research process.

Chapter 5, *“Data Analysis, Interpretation and Findings,”* presents the empirical core of the study. It outlines the socio-economic profile of respondents, discusses the results of ordinal principal component analysis (OPCA), and interprets logistic regression findings considering the stated objectives. The chapter offers a granular view of how each independent variable influences distinct aspects of investment behaviour.

Chapter 6, “*Study Findings, Conclusion and Recommendations,*” summarizes the key findings and revisits the research objectives considering the results. It offers well-founded policy recommendations targeted at stakeholders such as educational institutions, financial regulators, and civil society organizations. The chapter concludes by acknowledging study limitations and suggesting future research trajectories.

This organizational structure ensures methodological rigor while maintaining clear connections between theoretical propositions, empirical evidence, and practical implications throughout the research process.

2

CHAPTER 2

Literature Review, Research Gap, and Objectives of the Study

CHAPTER 2

LITERATURE REVIEW, RESEARCH GAP, AND OBJECTIVES OF THE STUDY

2.1 Relevance of Literature Review.

The purpose of this chapter is to critically examine existing scholarly work relevant to the investment behaviour of female academics, with a specific focus on the interplay of financial literacy, digital skills, cognitive biases, and personality traits. The literature review aims to establish the theoretical foundations of the study by drawing on behavioural finance models and empirical findings from both global and Indian contexts. It evaluates prior research on investment decision-making, identifies patterns and divergences in women's financial behaviour, and assesses the role of socio-economic, psychological, and technological factors in shaping such behaviour.

This review also serves to highlight the unique position of female academics as a distinct demographic—possessing intellectual capability, professional stability, and economic independence—yet potentially constrained by behavioural tendencies and contextual barriers. By synthesising and analysing the existing body of knowledge, the chapter seeks to uncover gaps that have not been adequately addressed in the literature. These identified gaps form the foundation for the formulation of the research questions and objectives presented later in this chapter, thereby providing a coherent link between past studies and the present research endeavour.

2.2 Thematic Review of Literature

2.2.1 Emergence of Behavioural Finance

The "economic man model" (Mill, 1836) began the study of economics, and other concepts that promoted the rationality of people proposed and developed by the finest intellectuals of all time, formed the basis for growth of several models, such as the Markowitz Efficient Frontier, Efficient Market Hypothesis, Capital Asset Pricing Model, and others. These models were simple as they presumed that a human, the most eccentric and unpredictable variable in the study, is "rational," mechanistic, and resistant to any behavioural anomalies. Rationality defined as the capacity to make decisions that maximise outcomes while carefully analysing alternative options framed using complete information, removing all possibilities of uncertainty or mistakes on the part of the human investor. (Bhalla, 2008). However, an emerging generation of researchers led by Daniel Kahneman and Amos Tversky (Tversky & Kahneman, Judgment under Uncertainty: Heuristics and Biases, 1974) gradually challenged the assumption of human rationality after many decades of dominance. They addressed "Judgement under Uncertainty: Heuristics and Biases" in their first research publication on the topic.

Later, in the journal *Econometrica*, (Tversky & Kahneman, Prospect Theory: An Analysis of Decision under Risk, 1979) introduced the world to their novel "Prospect Theory," which completely altered the way that investment decision-making was seen and further contested the rationality argument. The proponents of rational decision making had never acknowledged the behavioural patterns that Prospect Theory had uncovered. These trends are attributed by Kahneman and Tversky (Tversky & Kahneman, Prospect Theory: An Analysis of Decision under Risk, 1979) in their remarkable study to two human shortcomings: emotions and a lack of comprehension or cognitive challenges. The asymmetry between how people make decisions about gains and losses was one of the most notable and practical discoveries in the Israeli psychologists' Prospect theory. Through several tests, Kahneman and Tversky hypothesised and demonstrated that the same person who avoids risk when making a decision that involves benefits also seeks risk when making a decision that involves losses. Kahneman and Tversky's extraordinary discovery brought them widespread recognition. So much so that Kahneman's Prospect Theory gained him the 2002 Nobel Prize in Economics.

The revolutionary Prospect Theory served as the catalyst for several studies carried out by a group of academic economists under the direction of (Thaler R. H., 1999) (Bell, 1996) (Statman, 1995) (Shefrin H. , 2002) (Shiller, 2000), et al., which created the new field of behavioural finance. In his amazing seminal work "Against the Gods – The Remarkable Story of Risk," (Bernstein P. L., 1996) which was released in 1996, Peter Bernstein, the creator and chief editor of *The Journal of Portfolio Management*, stated that the study of behavioural finance examined how investors battle to balance risk and reward, sometimes exercising logical judgement and other times giving in to their feelings. This combination of the rational and the non-rational leads to a capital market that itself does not function consistently as theoretical models would have predicted.

In their prominent study, "Does the Stock Market Overreact?" which was presented at the American Finance Association's Annual Meeting in December 1985, (Thaler & De Bondt, 1985) showed that investors overreact because they overweigh new information while under weighing older and longer-term information. (Kahneman & Riepe, 1995) discuss the biases, preferences, and beliefs that people have that affect how they make investing decisions in their 1995 study on "Aspects of Investor Psychology." To address these behavioural concerns, the authors provide several thoughtful suggestions for financial advisors. Findings from several studies, both experimental and non-experimental, shows consistent patterns of irrationality, inconsistency, and incapacity in how people make decisions and choices amid ambiguity (Bernstein P. L., 1996). Following several studies that showed the value of the individual and their inherent characteristics, risk-taking ability, etc. with relation to his investing choices, the emphasis progressively changed from crowd behaviour to individual behaviour. Here, a subset of the behavioural finance paradigm-which prioritised individual behaviour overmarket or population activity arouse. According to behavioural finance theory, people make illogical decisions (Ahmad, et al., 2017)). Furthermore, (Ahmad, et al., 2017) contended that human irrationality is a biological, psychological, and sociological phenomenon. According to some academics, institutional investors that rely on knowledgeable portfolio managers for decision-making are less susceptible to behavioural biases than individual investors (Barberis & Thaler, 2003); (Fama, 1998).

2.2.2 Studies on Behavioural Finance in India

Behavioural finance as a discipline emerged as a response to the limitations of traditional finance, which assumes that investors are rational and markets are efficient. However, several market anomalies such as bubbles, crashes, and irrational trading patterns have highlighted the role of psychology in financial decision-making. However, several market anomalies such as bubbles, crashes, and irrational trading patterns have highlighted the role of psychology in financial decision-making. Global scholars such as (Kahneman & Tversky, 1979) through *Prospect Theory*, and later works by Statman laid the foundation for understanding how cognitive biases and emotions influence investment decisions. Moir Statman's (2014) research explains that behavioural finance is being developed as a sound financial structure. The study's goal is to differentiate behavioural finance from traditional finance and to clarify the basic finance and common investors. The study's conclusion is that behavioural finance replaces the rational people in traditional finance with regular people.

To fill the gap and investigate the relationship between these characteristics, (Suresh, 2013) developed a study on understanding behavioural finance through trader and investor biases and attributes. The conclusion is that an individual can become a better trader or investor by making wise financial judgements with the aid of an understanding of the in-core biases and qualities.

Three pertinent facets of behavioural finance were the focus of (Bhattacharya, 2012) study. To develop a conceptual model that identifies the causal elements for people's investing behaviour and the way these factors influence investment behaviour, the study first examined the factors that lead to such irrational behaviour. This study's second goal was to offer solutions to mitigate these effects and empower investors to take more strategic choices, which will lessen the likelihood of market inefficiencies. Thirdly, the study aimed to pinpoint potential areas for more behavioural finance research.

2.2.3 Individual Investor's Investment Behaviour

The behaviour of individual investors in the market has been the subject of numerous studies. These studies cover a wide range of areas, including attitudes towards investments, planning and forecasting, adviser roles, post-investment behaviour, etc. (Bosman & Winden, 2001) conducted an experimental investigation of investment behaviour, examining the part played by predicted and actual emotions. The study backs up the idea that feelings, both felt and predicted, have a systematic influence on risky decision-making. The findings of the researchers' worldwide risk experiment indicate that people are motivated to take less risk when they experience strong emotions brought on by the decision-making scenario because of an apparent threat.

In their 2004 study on investment behaviour under uncertainty, (Ludwig & Zimper, 2004) examined the choice made by an individual between two uncertain investment projects with the same expected returns, but one of which is liquid and the other illiquid. People would favour liquid assets over illiquid ones, based on the consensus. The study does discover, however, that pessimistic decision takers who follow a pessimistic update-rule to update their opinions would favour a non-liquid asset over liquid ones. The researcher uses the Chouquet Expected benefit

(CEU) hypothesis, which accounts for ambiguous attitudes, to explain this outcome by taking into consideration decision makers who maximise expected benefit with non-addictive beliefs. The CEU theory suggests that in sequential decision scenarios, the decision taker is not dynamically stable, indicating that his preferences change or would evolve because of new information. A pessimistic person prefers to sign contracts that ensure that the uncertain long-term investment project will not be prematurely liquidated since he understands that he will grow more pessimistic as new information becomes available.

An investigation on dynamic decision-making by (Bone, Hey, & Suckling, 2005) revealed that although people may seem to look ahead, they are either unable or unwilling to foresee their own future behaviour. The experiment is conducted again in this study using pairs of people and two decision nodes. One individual chooses the first node, while the other chooses the second. The study's design made it relatively simple for the first player to foresee the second player's choice. However, it was found that the first player does not make the obvious prediction. The results of the study show that people are reluctant to predict not just their own future behaviour but also that of others.

2.2.4 Investment behaviour of Females

Women have a significant role in society and make many decisions about the home, therefore improving their financial literacy should be the top priority since it influences not only the welfare of the family but also their saving and financial planning habits. (Powell & Ansic, 1997) concluded that when it comes to investing, women typically behave in a more risk-averse manner in comparison to men. Men tend to towards riskier investments like stocks or options and women are more likely to choose safer investing alternatives like bonds or mutual funds. These results showed how vital it is to take gender into account when making decisions as an individual investor, especially when it comes to risk perception and tolerance levels. (Hallahan & Faff, 2005) found that women generally preferred safer investments and were more risk-averse compared to men, confirming prior findings. (Lusardi A. O., 2008) emphasized the critical role of financial literacy, documenting widespread gaps in knowledge that limited women's ability to make informed financial decisions. Early Indian studies, such as (Sharma, 2010), highlighted that women, especially in rural areas, suffered from low financial literacy, which adversely impacted their investment behaviour and financial empowerment. These studies collectively underscored the importance of increasing financial education and access to finance to enhance women's participation and confidence in financial markets. An investigation into the financial literacy of Tamil Nadu's rural women was conducted by (Mathavathani & Velumani, 2014). According to the study, which only looked at three components of financial literacy—financial knowledge, financial behaviour, and financial attitude, rural women have extremely low levels of financial literacy which affected their investment patterns.

2.2.5 Financial Literacy

Ineffective money management can affect customers conduct in a way that increases their susceptibility to a financial crisis. Enhancing awareness about financial literacy has become crucial in the modern day since it can reduce the likelihood of being misled while making investment decisions. (Braunstein & Welch, 2002). Higher financial literacy increases a

person's confidence in making personal financial decisions and ensuring that the results are suitable, according to (De Bassa Scheresberg, 2013). However, those with less financial literacy typically limit their financial choices to credit cards, existing bills, and other less expensive options. However, several studies found that financial illiteracy affects people worldwide, especially in India, and that appropriate measures are needed to address this issue (Atkinson & Messy, 2012); (Brown & Graf, 2013); (Lusardi & Mitchell, Financial literacy and planning: Implications for retirement wellbeing ., 2011). Demographic factors like gender, age, income, and education have been employed to ascertain the differences in the levels of financial literacy (Lusardi, Mitchell, & Curto, Financial literacy among the young., 2010). However, studies by (Chen & Volpe, 1998) (Atkinson & Messy, 2012) (OECD, 2013) have identified a considerable gender gap in financial literacy, with women generally having a lower level than males. Even though women who earn more money are more financially literate and competent in their own affairs, males are becoming more financially literate at a faster rate than women. Lack of financial education, fewer conversations about money management with female family members, and ignorance of modern financial products and services are the main causes of women's lower involvement in financial decision-making (Roy & Jain, 2018).

According to the ASIC report (ASIC, 2003), financial literacy is widely acknowledged as a crucial component of both financial and economic stability and prosperity. According to some researchers like (Howlett, Kees, & Kemp, 2008) (Al-Tamimi & Bin Kalli, 2009) (Yoong, See, & Baronovich, 2012), the terms financial literacy, financial education, and financial knowledge can be used interchangeably. (Huston, 2010) countered that financial literacy encompasses more than just financial education and financial knowledge, arguing that these two are only two aspects of it. (Anthes, 2004) established a detailed definition of personal financial literacy as the capacity to understand, evaluate, control, and communicate about the financial circumstances influencing a person's material well-being. Financial literacy is a combination of an individual's knowledge, behaviour, awareness, attitude, and skills necessary to make wise financial decisions that contribute to financial well-being, according to the (OECD, 2013). Therefore, according to this definition, financial knowledge, behaviour, and attitude are the three key factors that determine financial literacy.

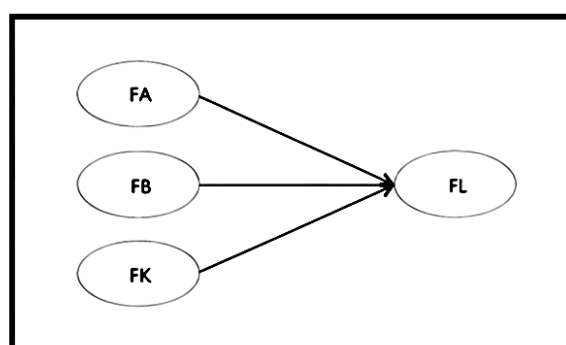


Figure 1 Model for Hypothesised Structural Measurement [Source: Authors own compilation]

2.2.5 (a) Financial Knowledge

(Lusardi & Mitchell, Financial literacy and retirement preparedness: Evidence and implications for financial education, 2007) established in their study that education could help individual investors cultivate a disciplined and long-term investment mindset. Knowledgeable investors are more likely to adopt investment guidelines including asset allocation, diversification, and regular portfolio rebalancing, which over time improves investment performance and risk-adjusted returns. Financial advisers who want to offer individualised investment advice and guidance to clients with varying educational backgrounds and levels of financial understanding must understand how educational credentials affect investment behaviour.

(Guiso & Jappelli, 2008) found that those who have more education are more likely to make methodical investing decisions and base them on market research and basic analysis. Investors can assess investment opportunities and make wise investment decisions by using the analytical and information-processing skills that education gives them. Additionally, this study indicated that individuals with higher education levels may be more likely than their less educated counterparts to adopt disciplined and well-informed investment strategies.

(Calvet, Campbell, & Sodini, 2009) in their study highlighted that individuals with higher education typically have a more sophisticated understanding of investing risk. As a result, individuals may be more willing to accept greater risk in the hopes of achieving larger financial returns. Education gives investors the critical thinking and analytical skills they need to properly evaluate and manage investing risks. Additionally, this study indicated that people with higher education levels can have different perspectives on investment risk than people with lower education levels. According to (Wang A. , 2009) research, there is a strong correlation between investors' subjective and objective knowledge and their propensity for taking risks.

(Van Rooij, Lusardi, & Alessie, 2011) in their study showed a relationship between increased involvement in investing activities and higher levels of education. Long-term financial planning, asset allocation, and portfolio diversification are all practices that educated investors are more likely to use, which eventually improves investment results and increases wealth. Policymakers and financial educators working to create focused financial literacy programs and educational initiatives to empower investors from a variety of educational backgrounds must understand how educational background affects financial knowledge. He also investigated and stated how people who work in higher-paying fields, like finance or entrepreneurship, might be more risk tolerant. Their jobs may provide them with the confidence and financial stability they need to take on more risky investments in the hopes of earning higher returns.

(Lusardi & Mitchell, Financial literacy and retirement planning: New evidence from the Rand American Life Panel. , 2011) discovered that older people typically had weaker financial literacy than younger generations, which may restrict their comprehension of sophisticated financial products and investing methods. Financial literacy levels and age are strongly correlated, and this can have a strong influence on the choices taken by individual investors. Additionally, this study highlighted that older investors may have varying degrees of financial

literacy and knowledge, which could affect their capacity to make well-informed investment choices. According to research by (Bhabha, Khan, Qureshi, Maeem, & Khan, 2014), the primary factor influencing the saving and investing habits of working women in developing nations like Pakistan is their level of financial literacy. The author concluded that women in the workforce lack financial market knowledge and only understand fundamental financial concepts. Pakistani women workers are completely ignorant of the existence and operations of the financial market; they just know that they are making deposits into certain institutions.

(Lodhi, 2014) aimed to investigate how investors' decision-making is influenced by financial literacy, accounting information, openness to experience, and information asymmetry. The author concluded that investors can invest in riskier products and reduce information asymmetry by using accounting and financial literacy.

(Arif, 2015) evaluated Pakistani individual investors level of financial knowledge. The author looked at how Investment decision-making and financial literacy are connected. The degree of financial literacy was discovered to be below average. Respondents' levels of financial literacy varied according to their age, gender, marital status, and employment activity. The author concluded that, at a 10% significant level, financial literacy had a negative and substantial impact on the total of investing parameters.

The various degrees of financial knowledge and their effects on financial literacy and investment decision making were examined by (Bayrakdaroglu & San, 2015). Furthermore, it has been determined how financial literacy affects the variety of financial products available. Using a survey approach, research has been done on 329 students in the business administration department of Mugla Sitkikocman University. Logistic regression was used to analyse the collected data. The results demonstrated that financial knowledge is a factor that raises the level of financial literacy as evaluated by finance literature, and that financial literacy improves the variety of financial instruments that are desired.

According to the study by (Chen & Volpe, 1998) individuals' levels of financial literacy varied according to their socioeconomic status. Participants with various racial and ethnic origins demonstrate varying degrees of financial literacy. The findings of the study conducted by (Bloomfield & Libby, 1999) indicated that if less informed investors are unaware of the degree of their informational disadvantage, supplying information to solely expert investors may be detrimental to their welfare. It was discovered that less knowledgeable investors frequently buy when steady-state prices are high and sell when steady-state prices are low, transferring wealth to more knowledgeable investors in the process. According to (Bernheim & Garrett, 2001) Some advertising campaigns may persuade consumers to have inflated financial expectations or to incur excessive debt for pointless goods. (Robb & Sharpe, 2009) claimed that online finance-related websites and blogs can have a big impact on educating readers about money matters and encouraging responsible spending. The study by (Al-Tamimi & Bin Kalli, 2009) Individual investors' investing choices were highly influenced by their financial literacy. The level of financial literacy among the respondents varied significantly depending on the respondents' gender as well. Particularly, women are less financially literate than males. However, the experiment showed that less informed investors tend to steer clear of these systematic wealth transfers when provided advice regarding the statistical validity of the

information at hand. The study conducted by (Van Rooij & Annamaria, 2011) demonstrated how lack of financial and economic literacy significantly discourages stock ownership. All the financial knowledge assessments used in our research indicate that households with low education rates are unable to trade stocks. The study by (C.J van Rooij & Lusardi, 2012) found that the adult population's level of numeracy is extremely low in both the United States and other countries, which is problematic because the government and employers have now completely delegated to individuals the responsibility of making all financial decisions regarding investment, borrowing, and saving. According to research by (Lusardi & Mitchell, 2014) those who have more access to financial knowledge, such as through internet resources and financial education courses, tend to be more financially literate. In a study using the Keys to Financial Success curriculum by (Asarta, Hill, & Meszaros, 2014) it discovered that the course boosted high school students' financial literacy by 61% between the pretest and post-test. (Agarwal, Amromin, Itzhak, & Chomsisengphet, 2015) concluded that there is a correlation between financial literacy and better financial planning, more risk-tolerant people have more investments, and more respondents are financially literate. According to the study by (Potrich & Vieira, 2015), financial literacy is determined by combining knowledge, attitudes, and behaviour related to money. Furthermore, the testing showed that this model is suitable for both males and females. However, compared to women, men had a greater average level of financial literacy. According to (Mouna & Anis, 2016), investors that have a high level of financial literacy include a variety of assets in their portfolios, which lowers portfolio risk. The study by (Bhargava, 2017) found that the seven most important aspects of financial literacy—attitude, knowledge, budgeting practises, liquidity, self-analytical skills, emotional inclination, and goal planning—have the most influence on investor decision-making. In the study by (Gupta & Gupta, 2018) was concluded that financial literacy has a considerable influence on rural Himachal Pradesh residents' decisions to invest in financial goods such savings accounts at post offices, insurance policies, mutual funds, and stocks. The study by (Wagner, 2019) examined the relationship between financial education received in high school, college, or through a job provides a person's rating for financial literacy. According to the findings, those who had any financial education were more likely to have financial literacy ratings that were higher than those of those who had none. According to the findings by (Mehra & Indapurkar, 2020), an individual's decision to select a financial product is significantly influenced by their overall financial literacy. Additionally, it means that those with poor financial literacy are unable to benefit from more recent financial products that guarantee a better rate of return. Therefore, it is crucial that the government and decision-makers take the appropriate efforts to promote financial literacy among the populace. The findings of this study by (Yanto & Ismail, 2021) indicate that social media can help students become more financially literate. In other words, in addition to using social media for communication, students also use it to learn about and share financial data. The findings of the study by (M. Jamuni, 2022) indicate that people have a respectable level of financial literacy. Individuals' financial behaviours were examined, and it was discovered that most of them demonstrated favourable financial conduct. Financial literacy has been shown to improve people's skills and ability to make better decisions, which eventually results in a positive financial behaviour. Thus, one might draw the conclusion that raising financial literacy encourages sensible economic activity. The results of the study by (Ali Seraj & Alzain, 2022) showed that financially intelligent

individuals make wise investment selections, and this association is strengthened when they are overconfident. To make wise investment decisions and manage their funds successfully, people need to be literate. Financial losses result from illogical investment decisions made by people or investors who lack financial literacy.

2.2.5 (b) Financial Attitude

Financial attitude can be explained as an individual's propensity to deal with money issues. The important thing is having the capacity to save money and make plans.

Financial attitudes are the result of a decision-makers behaviour, and they might be ingrained by their economic and non-economic views, according to (Ajzen, 1991). Previous studies have found a connection between young people's financial attitudes and financial literacy (Grable & Lytton, 1998); (Kasman, Heuberger, & Hammond, 2018). Research by (Shim, Xiao, Barber, & Lyons, 2009), (Sohn, Joo, Grable, Lee, & Kim, 2012), suggests that young people's financial literacy may be framed by attitudes towards money. Students who have a positive attitude on money and finance may behave in ways that increase their financial literacy and awareness. But having a pessimistic outlook will make it harder for them to make sound financial decisions. To ascertain the relationship between working women's financial attitudes, financial literacy, and financial behaviour, (Haque & Zulfikar, 2015) studied 300 Pakistani working women employed in non-financial sectors. The study concluded that there is a strong and favourable correlation between the financial literacy characteristics listed above.

(Bhushan & Medury, 2014) concluded that cultivating positive financial attitudes among the populace should be the main goal to improve financial literacy across generations. Only then can any financial education program truly yield rewards. The NCFE study on financial literacy and financial inclusion in India was examined by (Dwivedi, Purohit, & Mehta, 2015). The study demonstrated the disparity in financial literacy between men and women. Men understand finances better than women do. The survey also found that although men score lower than women in financial attitude, women score higher in financial behaviour and financial understanding. (Vaghela, 2023) found that university students with positive financial attitudes exhibit more desirable financial behaviour in India. The (OECD/INFE, 2024) report highlights that strengthening positive financial attitudes is crucial for financial well-being and resilience globally. (Bindu, 2025) investigated working women in Karnataka, confirming that financial attitudes, knowledge, and behaviour collectively shape women's financial literacy. These studies collectively reinforce that fostering a positive financial attitude is vital for empowering individuals, especially women, to achieve sound financial management and inclusion.

2.2.5 (c) Financial Behaviour

The financial literacy level of women has been determined by numerous studies through surveys on investing, saving, bill payment, and financial planning, credit card, and budgeting behaviours. Financial behaviour refers to human conduct that is relevant to financial decision-making and money management, such as creating and managing a suitable budget plan, paying bills on time, and consistently saving money (Bhushan & Medury, 2014), (Kalekye & Memba,

2015). Men and women exhibit different financial habits depending on their gender. Women are more meticulous when it comes to budgeting and monitoring their money, although their lack of financial knowledge influences some aspects of their financial behaviour (OECD, 2013).

(Mandella & Klein, 2009) examined the effects of a personal finance management course taken by 79 high school students one to four years prior. The author discovered that participants in the course did not think of themselves as being more focused on saving money or as having better financial behaviour than those who had not. Positive financial behaviour, such as prudent spending planning and maintaining financial stability, raises an individual's level of financial literacy, while negative financial behaviour, such as heavily relying on credit and loans, degrades their financial well-being, according to (Atkinson & Messy, 2012). Recent research confirms and expands these insights. (Mireku, 2023) argued that financial literacy strongly predicts sound financial behaviours across genders. A systematic review by (Sundarasan & Manoharan, 2023) found persistent gender gaps in financial literacy impact financial behaviour, necessitating gender-responsive education interventions.

2.2.5 (d) Common Literature on Financial Literacy

(Wachira & Kihui, 2012) used data from the 2009 National Financial Access (Fin Access) survey to highlight how financial literacy affects access to financial services in Kenya. The study discovered that financial literacy in Kenya is still low after using a multinomial logit technique to explain access to the four primary financial service access strands. Furthermore, regression results show that characteristics including income levels, distance from banks, age, marital status, gender, household size, and educational attainment determine a household's ability to obtain financial services rather than financial literacy levels. Nonetheless, the study found that there is a very high chance that a financially illiterate individual will continue to be financially excluded, urging further funding for financial literacy initiatives to buck the trend.

The elements impacting the conduct of individual investors in the Indian stock market were discovered by (Vijaya, 2014). Principal Component analysis was employed in this study to identify the factors that influence each investor's investment behaviour. Five key characteristics have been identified by researchers as having the potential to impact the investment behaviour of ordinary investors in the Indian stock market. These included self-serving bias, familiarity bias, loss aversion, anchoring, and overconfidence. The results will help investors comprehend typical behaviours that support their actions for higher returns, and they will also assist financial advisors in creating suitable asset allocation plans for their customers. About 200 individual retail investors who lived in Hyderabad and Secunderabad, India's twin cities, were surveyed to gather data.

(Jairath, 2015) provided examples of how investment behaviour is affected by financial literacy or education. Financial literacy was found to be positively correlated with several financial conducts, including cash flow management, credit card management, investing, and saving.

(Ates, Coskun, Sahin, & Demircan, 2016) argued that behavioural biases and financial knowledge are important variables influencing investors' financial choices and actions.

According to the results, approximately 50% of investors have low levels of financial literacy, rely primarily on advice from friends or parents for financial information, and exhibit a high degree of behavioural biases. While some of these biases are unrelated to financial literacy, there is a significant correlation between several other biases and financial literacy.

(Akims & Jagongo, 2017) evaluated financial literacy in Nigeria and how it affects investing choices. The author argued that people's decision to invest is positively impacted by their level of financial knowledge. He suggested investing in financial literacy development for both individuals and organisations marketplace.

(Rehan & Umer, 2017) investigated how investors decisions in the Pakistani stock exchange are influenced by cognitive biases. Anchoring, confirmation, familiarity, overconfidence, and self-serving bias are the five behavioural biases identified by the author which have a favourable and noteworthy impact on Pakistani investors choices.

Planning based on one's financial literacy levels has been shown to be a very reliable indicator of wealth; individuals who make plans approach retirement with two to three times as much money as those who don't according to (Lusardi & Mitchell, Financial literacy: implications for retirement security and the financial marketplace., 2011)

Greater investment returns and the purchase of more complicated assets, such equities, which often have greater rates of return, are also linked to financial literacy. According to a simulation by (Lusardi, et al., 2017), in the context of a life-cycle model of saving with numerous sources of uncertainty, between 30 and 40 percent of US retirement wealth inequality can be explained by variations in financial literacy. This finding has profound implications for wealth. These findings demonstrate that financial literacy is important for saving and building wealth.

Additionally, there is a high correlation between financial literacy and the capacity to handle unexpected expenses and withstand income shocks. Financially knowledgeable people are more likely to say that they can raise \$2,000 in 30 days or that they have enough cash or savings to meet a \$400 emergency need (Lusardi, Mitchell, & Oggero, . The changing face of debt and financial fragility at older ages. , 2018).

When it comes to debt behaviour, those with greater financial literacy are more likely to pay off their credit card debt in full each month as opposed to only the minimum amount owed according to (Lusardi & Tufano, . Teach workers about the peril of debt., 2009).

Higher financial literacy also makes people less likely to use expensive borrowing options like payday loans, pawn shops, auto title loans, and refund anticipation loans, as well as more likely to refinance their mortgages when it makes sense to do so and avoid taking out loans against their 401(k) plans. (Lusardi & De Bassa Scheresberg, Financial literacy and high-cost borrowing in the United States., 2013)

Numerous researches have shown the connection between financial literacy and investment behaviour. According to (Moore, 2003), those with the least financial literacy are likewise more likely to have expensive mortgages. According to (Lusardi & Tufano, Debt literacy, financial experiences, and overindebtedness., 2015), those with the least financial literacy had to pay more in fees, use more expensive borrowing options, and experience higher transaction costs.

The study found that those with less expertise also reported having too much debt and being unable to assess their debt levels. The least financially educated people were also more likely to borrow against their 401(k) and pension accounts, according to (Utkus & Young, 2011), and (Mottola, 2011) found that people with low financial literacy were more likely to use expensive credit cards.

The United Arab Emirates (UAE) investors degree of financial literacy and investment choices were investigated by (Al-Tamimi & Anood Bin Kalli, 2009). They discovered that investors financial literacy and investment behaviour were significantly influenced by their income, educational attainment, and level of employment. The findings indicate that there is a notable variation in investors financial literacy levels based on their gender. In this sense, compared to male investors, they discovered that women had lower levels of financial literacy. Their research showed that an individual investor's level of financial literacy has a big impact on their investment choices.

The possible impacts of financial literacy on investors' decisions and investment results were investigated by (Chu, Wang, Xiao, & Zhang, 2017). According to their findings, investors who were more financially literate tended to purchase mutual funds, but those who were overconfident in their financial acumen were more likely to purchase equities. They discovered that investors who had greater financial literacy are more likely to have favourable investment results.

(Lotto, 2020) investigated how household investors' investment decisions were impacted by their level of financial literacy. Their research showed a strong positive correlation between investors' investing decisions and their level of financial literacy. They discovered that households with financial literacy shift their funds from unofficial to official investment platforms. Additionally, they discovered a strong correlation between sociodemographic characteristics and financial literacy.

2.2.6 Cognitive Biases

Cognitive psychology (how people think) and the arbitrage window (when markets will be inefficient) are the two pillars of behavioural finance. The standard framework's inability to adequately explain many empirical findings has driven the expansion of behavioural finance research (Ritter, 2003)

Several prevalent cognitive biases among investors in behavioural psychology and finance have been identified by (H.K. Baker, Kumar, & Goyal, 2019). Cognitive biases often lead to anomalies in the way investors make decisions. In many nations and societies, academics have investigated the ways in which cognitive biases influence the choices made by individual investors. According to (M. Ahmad, 2020), investors make bad choices because of human psychology. A brief guide to behavioural finance given in the article suggested that research that rejects the conventional premises of expected utility maximisation with logical investors in efficient markets is referred to as behavioural finance. The construction of investment portfolios and other more general factors that impact investment decisions are influenced by behavioural biases including herding and heuristics (N. & Floros, 2021).

According to Thaler, investors frequently make less-than-optimal judgements because of the influence of behavioural biases. This study claimed that many customers behave in ways that are at odds with economic theory in specific, well-defined circumstances. Economic theory will consistently mis predict behaviour under these circumstances. An alternative descriptive theory is suggested using Kahneman and Tversky's prospect theory as its foundation (Tversky & Kahneman, Toward a positive theory of consumer choice, 1980). According to this article by (Tversky & Kahneman, Prospect Theory: An Analysis of Decision under Risk), people typically experience the sorrow of losses more intensely than the joy of comparable gains. As a result, when faced with possible losses, individuals can become more cautious and risk-averse, which could result in particular patterns of behaviour in the context of investing. The presumption that people act entirely rationally and consider all available information when making economic decisions is the foundation of a large chunk of economic and financial theory. In traditional finance, it is believed that people make self-serving, logical decisions and that they always want to maximise their utility in limited situations (Tversky & Kahneman, Loss Aversion in Riskless Choice: A Reference-Dependent Model, 1991). According to (Barberis N. H., 2001), loss aversion is a feeling that is brought on by changes in an investor's wealth value, and how much loss aversion an investor feels depends on their prior investment performance.

(Ajmal & Mufti, 2011) in their study revealed that a particular bias, namely the illusion of control, has a significant impact on the perceived market efficiency of the Pakistani financial market. This information explains why certain anomalies exist in the Pakistani financial market and contributes to its inefficiency. Investigations by (Abreu & Mendes, 2012) revealed that herd mentality is widespread in the financial markets, boosts investor confidence, and has a big impact on how they behave while making investments. According to (Galariotis & Rong, 2014) when investors are subjected to a high level of risk and uncertainty, as they are during financial crises, empirical studies show that there is a large amount of herding that occurs and it has a significant impact on Investment behaviour. As shown in the three tests done on this bias, the investors in the Iraqi market for securities displayed bias towards the new information that matches to what they expected given their knowledge and initial perspective.

The effect of overconfidence on people's investment choices was investigated in a study by (Abdin, U., Sultana, & Farooq, 2017). The study's conclusions showed that investing decisions are greatly impacted by overconfidence. This implies that people who are overconfident often make investing decisions that are impacted by their inflated sense of their own competence. The findings demonstrated that one of the most important behavioural elements influencing investment decisions is overconfidence. Thus, perceived risk acts as a mediator in the relationship between overconfidence and taking financial risks (Kirchler & Maciejovsky, 2002).

Research on herding behaviours reveals that people tend to follow the herd for a variety of reasons, including the need to appear knowledgeable or the desire to learn from others. Researches on herding behaviours by (Jiang & Verardo, 2018) reveals that people tend to follow the herd for a variety of reasons, including the need to appear knowledgeable or the desire to learn from others. Investors already have late perception bias, so they tend to be overly

optimistic about anticipated occurrences that are comparable to those in which they have previously generated profitable returns (Hameed Al-Dahana & Hasanb, 2019).

The results of the study conducted by (Bakar & Chui Yi, 2015) demonstrate that investors decision-making is significantly and positively impacted by overconfidence. The results also demonstrate that the investors' decisions are significantly influenced by Anchoring, Loss Aversion, and Availability Bias

(Yang, 2019) in his study stated that by influencing individuals' attitudes towards risk, loss aversion has an impact on the financial markets. The assessment of the literature on behavioural biases and behavioural finance in the article by (Shukla & Jamal Rushdi, 2020) leads to the conclusion that behavioural finance provides a psychology-based framework for explaining stock market anomalies, such as sharp increases or decreases in price. For the study of investor behaviour in financial markets, behavioural finance uses other research approaches such as psychology and sociology.

(Chandra, 2008) In their research concluded that individual investors often fail to make rational investment decisions, contrary to what the classical finance theory predicts. Behavioural characteristics like greed and fear, cognitive dissonance, heuristics, mental accounting, and anchoring greatly influence how they make financial decisions.

According to the study conducted by (Bikas & Jureviciene, 2012) behavioural finance is founded on the understanding that emotional elements have a significant impact on significant changes in the financial markets, focuses on the limitations of human reason, and describes the impact of psychological factors on investment behaviour.

2.2.6 (a) Anchoring Bias

One well-known cognitive bias that has a big impact on decision-making is anchoring bias. It describes the propensity to base decisions unduly on the first piece of information one comes across (the "anchor"), even if it is arbitrary or irrelevant. When it comes to investing behaviour, anchoring bias can result in less-than-ideal choices include overestimating stock potential, adhering to initial price targets, and hanging onto losing investments for an extended period. Because of the bias's substantial effects on financial markets, behavioural finance has examined it in detail.

Anchoring was first proposed by (Tversky & Kahneman, 1974) in their seminal work on heuristics and biases. They showed that later estimations were greatly impacted by initial exposure to arbitrary numbers, or anchors. The foundation for investigating anchoring in a variety of areas, including investing choices, was established by their study. They contended that initial price levels or projections impact investors' choices, resulting in mispricing of assets.

Anchoring is the process by which people make estimates by beginning with an initial value that is modified to produce the final answer. Since adjustments are usually insufficient, different starting points produce estimates that are biased towards the initial values, according to (Tversky & Kahneman, 1974). They continued to define anchoring as using unrelated data

as a guide for assessing or estimating an unknown value or piece of information. Even though these facts may not be related to the actual occurrence or value, anchoring occurs when people base judgements or estimates on things they already know to be true.

(Odean T. , Volume, Volatility, Price, and Profit When All Traders are Above Average, 1998) investigated how systematic errors in stock price prediction are caused by anchoring bias. Because they may base their expectations on historical prices or benchmarks, investors may hang onto underperforming equities in the hopes that they will return to their previous levels.

(S.Z.A., M., & Mahmood, 2018) state that anchoring bias is another psychological heuristic that emphasises people's tendency to make decisions based solely on the first or most relevant information they are given.

While (S.Z., M., & Mahmood, 2018) reported that anchoring bias significantly and negatively effects investors decisions, (J., N., & S., 2019) found that anchoring bias significantly and positively influences investors' decisions.

According to (Laryea & Owusu, 2022) Compared to males, females were found to anchor more frequently. Additionally, having more financial information raised the likelihood of anchoring rather than decreasing it.

2.2.6 (b) Confirmation Bias

Decision makers often place too much weight on evidence that supports their preexisting opinions and too little weight on evidence that contradicts or invalidates them, according to psychology research on confirmation bias (Lord, Ross, & Lepper, 1979), (Shefrin H. , Behavioral Corporate Finance. , 1999).

(Allahverdyan & Galstyan, 2014) explained confirmation bias as the tendency for people to learn or evaluate new information in a way that supports their preconceived notions; it occurs in psychology, the economy, and scientific methods. As a result, it causes people to disregard conflicting facts. (Schwind, Buder, Cress, & Hesse, 2012)

The tendency of investors to look for information that only confirms their beliefs is known as confirmation bias (Pompian M. , 2012).

Confirmation bias frequently causes decision makers to disregard information that contradicts their opinions ((Festinger L. , 1957) (McMillan & White, 1993), Nickerson 1998, Raghunathan and Corfman 2006). This suggests that while making decisions, people frequently choose and prioritise confirming evidence while ignoring contradicting facts. Recent research further investigates the nuances of confirmation bias in various contexts. (Bergerot, 2024) found that moderate confirmation bias can improve collective decision-making under social influence, though excessive bias leads to polarization and suboptimal outcomes. (Piksa, 2024) demonstrated that awareness of confirmation bias can mitigate susceptibility to misinformation.

2.2.6 (c) Cognitive Dissonance

Cognitive dissonance occurs when an individual has two conflicting ideas in their mind or when new information contradicts preexisting conceptions. (Festinger L. , 1957) was the first to propose the idea of cognitive dissonance. It explains the psychological phenomena of the tendency to modify beliefs to defend previous acts. According to Festinger's hypothesis, people change their beliefs to ease the discomfort they experience when confronted with competing cognitive factors, such as a difference between past decisions and scientific facts.

According to (Evans, Barston, & Pollard, 1983) a psychologically upsetting condition known as cognitive dissonance bias can result in incorrect thinking, poor decisions, and cognitive errors (Evans, 1983).

The theory of cognitive dissonance has undergone numerous revisions and rewritings, such as (Cooper & Fazio, 1984), who put forth the theory that the discomfort felt in dissonance experiments was caused by a sense of personal responsibility for creating an unpleasant consequence rather than by a discrepancy in the subject's cognition. According to them, dissonance is more about producing an undesirable outcome than it is about cognitive inconsistencies in and of itself

(Goetzmann & Peles, 1997) Goetzmann and Peles (1997) investigate how cognitive dissonance affects investors in mutual funds. They suggest that when individual investors decide to buy mutual funds, they might encounter cognitive dissonance. According to researches, investors' money moves more quickly into winning funds—mutual funds that perform well—than it does out of losing funds—mutual funds that perform poorly. Investors are hesitant to give up after losing money because they are unwilling to admit that they made a poor investment choice.

Researchers are becoming more interested in determining how individual cognitive bias affects shareholders since certain forms of cognitive bias significantly affect their evaluations of susceptibility and how they each handle risks related to their choices (Simon, Houghton, & Aquino, 2000).

(Kindleberger, 2000) asserts that herding in financial markets is significantly impacted by cognitive dissonance. There is evidence of cognitive dissonance between the stock market performance and information gathering (Argentesi, Lutkepohl, & Motta, 2010). According to their argument, investors tend to overlook information that contradicts market performance to lessen cognitive dissonance. They discover that investors buy more newspapers during periods of strong stock market performance, while newspaper sales decline during periods of weak market performance. The cognitive dissonance argument is supported by their findings.

The impact of index futures trading on spot market volatility was investigated by (Darrat, Rahman, & Zhong, 2002). They discovered that the observed volatility in the spot markets cannot be explained by index future trading. Rather, they revealed compelling evidence that a volatile spot market is the root cause of future market volatility. Their results align with the hypothesis of cognitive dissonance. This is because investors are more inclined to attempt to reduce cognitive dissonance when they make poor investing selections when the spot market

itself becomes more volatile. As a result, investors are increasingly engaging in hedging activities to prevent future regrets as well as to lower perceived risk from the spot market.

The momentum puzzle and cognitive dissonance have been connected by (Antoniou, Doukas, & Subrahmanyam, 2013). They argue that when news contradicts their emotional states, viewers of the news undergo cognitive dissonance as they assimilate the new knowledge. This suggests that during times of optimism or pessimism, bad or good news spreads gradually. Put another way, when sentiment is positive, investors are hesitant to trade these equities, which leads to higher momentum profits.

Reasonable investment decision-making may be hampered by cognitive and emotional phases. An investor's capacity to make emotionally intelligent judgements is impacted by cognitive dissonance bias, as the study by (Jamil & Bashir, 2021) empirically highlights.

2.2.6 (d) Familiarity Bias

Individual investors tendency to invest in stock in companies they are familiar with is known as familiarity bias (Baker & Nofsinger, 2002) (Grullon, Kanatas, & Weston, 2004) (Speidell, 2009). In most cases, people would rather choose the option they are more accustomed to than the new one when given two options. This preference is particularly evident when choosing stocks for investment objectives, claim (Fox & Tversky, 1995). Investors simply prefer to invest in securities that they are familiar with due to their preference for the familiar and their dislike or fear of the unexpected (Huberman, 2001). Investor actions in the financial market appears to be closely associated with consumer behaviour in the product market. According to (Chira, Adams, & Thornton, 2008) people's opinions about certain brands are frequently impacted by their familiarity with the goods that are linked to those brands. According to (Aspara & Tikkanen, Interactions of individuals company-related attitudes and their buying of the companies stocks and products, 2008), people's opinions about a firm, their propensity to purchase its goods, and their propensity to invest in its stock are likely to interact.

Another explanation for familiarity bias is asymmetric information, which implies that investors might decide to put their money into well-known stocks just because they know more about them (Foad, 2010). When investors deal with assets they have never seen before, they are subject to asymmetric information. These informational disparities are significant, particularly when thinking about overseas asset investments.

This suggests that people typically purchase goods from companies in which they own stock, and they also frequently invest in the shares of companies based on positive experiences with those companies' products. As a result, individual investors may favour purchasing stock in particular companies due in part to their favourable opinions of the company's brands and goods (Aspara & Tikkanen, Corporate marketing in the stock market: The impact of company identification on individuals' investment behaviour, 2011).

2.2.6 (e) Self-Serving Bias

In psychological research, self-serving bias is a well-established notion. It discusses the tendency of individuals to protect their self-esteem by attributing failures to uncontrollable

circumstances like luck and to credit achievements to individual efforts and abilities to boost self-esteem. (Feather & Simon, 1971), (Miller & Ross, 1975), (Alicke, 1985).

(Tang & Baker, 2016) claim that there is a substantial correlation between investors' financial behaviours and their sense of self-worth. Self-serving bias has been a key topic in research on financial decision-making ((Hoffmann & Post, 2016); (Kim, 2013); (Koo & Yang, 2018) and trading decisions made by investors ((Barber & Odean, 2002); (Daniel, Hirshleifer, & Subrahmanyam, 1998).

(Gervais & Odean, 2001) demonstrated that traders with self-serving bias often overestimate their past performance, which causes them to become overconfident and perform worse than those without it.

Experienced financial managers with self-serving bias, according to (Libby & Rennekamp, 2016), tend to place more emphasis on internal than external factors as reasons for good performance. This means that they attribute their success to their own abilities, knowledge, and efforts rather than having a supportive supervisor or a positive work environment. Their tendency to make projections rises because of their increased confidence in better future performance.

(Moosa & Ramiah, 2017) in their most recent study reaffirmed the link between overconfidence and self-serving bias. They concluded that trader's tendency to blame outside forces for financial crises stems from self-serving bias, which is evident in daily life. In addition to underestimating risk and overestimating one's own abilities, victims of self-attribution bias tend to claim credit for successful performance and attribute unsatisfactory portfolio returns on outside causes (Alrabadi, Al-abdallah, & Aljarayesh, 2018); (Mushinada & Veluri, 2018).

Despite early research showing that people either forget their mistakes or are unaware of past mistakes made while making important judgements, people do not learn from their terrible choices ((Nguyen & Schuessler, 2012); (Hoffmann & Post, 2014).

It was later found that self-serving bias prevents investors from learning from their errors since they believe that outside forces are to blame for their failures and losses (Kansal & Singh, 2018). Self-attribution bias also has a positive correlation with investment volume (Mahina, Muturi, & Florence, 2018) and forces investors to overreact when making investments (Mittal, 2010). The rationality idea demands an effective appraisal of prior judgements, which is incompatible with failing to recognise and resolve differences in those decisions (Hammond, Keeney, & Raiffa, 2002). For this reason, self-attribution bias is relevant in this study. According to (Feng & Seasholes, 2005) research, which was based on the accounts of 1,511 Chinese investors, self-attribution is linked to the disposition effect, which means that those who suffer from self-attribution bias sell stocks that generate profits while holding shares that generate losses. In their research on self-attribution bias, (Choi & Lou, 2008) discovered that it influences people's perceptions of their own skills and prevents them from taking lessons from their past achievements. One important mechanism that prevents people from attributing their failures to outside influences and their achievements to internal factors, such as personal capabilities, is self-attribution bias. Additionally, the data demonstrates that investors who are not exposed to or conscious of biases make logical choices and, as a result, experience more

positive results. Conversely, logical investors will make the best choices and produce the intended outcomes. Therefore, it is known that self-attribution encourages overconfidence, which prevents the investor from acting rationally.

However, the profession of an individual also influences whether they would exhibit self-attribution behaviour. According to research from India by (Mittal, 2010), business owners are more susceptible to self-attribution bias than people on incomes.

Self-attribution bias is more evident when an investor is new to the market, and it is further exacerbated by higher education (Mishra & Metilda, 2015).

2.2.6 (f) Decision Paralysis/ Information Overload

The paradox of choice, also known as choice overload, arises when there are plenty of options available. Regarding investments choice, this issue can be termed as the paradox of investment choice or choice paralysis bias. The paradox of choice, which has been the subject of studies in a variety of fields, including psychology, consumer behaviour, the humanities, and the social sciences, is where the idea of choice paralysis bias first emerged according to (Warne & Kumar, 2023). The phrase "analysis paralysis" or "paralysis of analysis" describes a method of overanalysing (or overthinking) a problem or referring sources to the extent that no choice or action is made, which paralyses the conclusion. It is a prevalent fallacy that sales rise if a vendor offers a buyer additional options (Menkhoff, Schmeling, & Schmidt, 2013).

Significant progress has been achieved in this area by numerous researchers. Using historical data from the Vanguard Centre for Retirement Research, (Sethi-Iyengar, Huberman, & Jiang, 2004) investigated 401(k) retirement savings programs provided to almost 8,000 employees by 647 organisations. Employee participation rates in plans fell as the number of plans increased, they discovered. Employee involvement rates fell by 2% for every ten fund options that were added. They found that individuals' investment decisions are hampered by the paradox of choice, which causes the participation rate to decrease as the number of investment possibilities rises.

(Kempf & Ruenzi, 2006) conducted research on investment choices made by investors with a wide range of mutual fund options. They discovered that when there are more possibilities for funds, investors become confused and stick with their previously selected course of action. Their research showed that when the number of fund options rises, investors become inactive or put off making decisions.

(Kida, Moreno, & Smith, 2010) investigated the paradox of choice phenomena in relation to investors' experiences. They investigated how investors' investment selections were impacted by the size of their choice set. Their research showed that while the paradox of choice might not exist for more experienced investors, it was significantly noticeable for novice investors.

2.2.6 (g) Overconfidence

Overconfidence bias is a well-known phenomenon in behavioural finance that causes investors to overlook the risk associated with riskier investments because they are overconfident in their prior knowledge and skills.

(Shefrin & Statman, The disposition to sell winners too early and ride losers too long: Theory and evidence., 1985) concentrated on overconfidence bias and other psychological facets of individual investment behaviour. They proposed that overconfident investors typically trade more and take on more risk, which results in less-than-ideal investing outcomes. To lessen the negative consequences of overconfidence bias on investment performance, they underlined the importance of educating and increasing investor knowledge. They also looked at how representativeness bias affects the choices made by individual investors. They discovered that while assessing investment prospects, investors frequently use mental shortcuts and simplifications, which can result in skewed assessments and less-than-ideal portfolio allocations. To assist people in identifying and overcoming representativeness bias in their investing decisions, their research emphasised the significance.

(Odean T. , 1998) examined the impact of overconfidence bias on individual stock market participants' performance. He discovered that overconfident investors typically engage in more overtrading and portfolio turnover, which lowers net returns when transaction costs and market frictions are taken into consideration. Furthermore, Odean's research revealed that overconfidence bias plays a role in excessive trading, a phenomenon in which investors purchase and sell equities based on false assumptions about their capacity to beat the market.

(Weber & Camerer, 1998) investigated, using experimental means, how overconfidence bias affects individual investment behaviour. Their research showed that, in comparison to their less overconfident counterparts, overconfident people typically engage in more trading and risk-taking behaviours. Furthermore, Weber and Camerer discovered that when investors make judgements about their investments, they are influenced by overconfidence bias, which causes them to overestimate positive information and underestimate downside risk.

(Odean T. , 1999) found that overconfidence leads to excessive trading after examining the trade records of discount broking accounts. Furthermore, excessive trading reduces realised gains due to the increased transaction costs.

(Gervais & Odean, 2001) examined the impact of overconfidence bias on individual investor trading behaviour. According to their research, overconfident investors are more likely to engage in speculative trading and have restricted portfolios, which increases their vulnerability to idiosyncratic risk. Additionally, their study showed that investors who suffer from overconfidence bias may disregard diversification guidelines and overestimate their ability to beat the market, which could result in worse portfolio performance and higher volatility.

(R. Graham & R. Harvey, 2009) in his study assessed Investors with a high level of confidence trade frequently and have more exposure to the market in assets located abroad. The overconfident investors have a propensity to believe they are more competent than they are, which makes them more likely to act on their beliefs and increase trade frequency.

Overconfident investors are prone to overestimate the reliability of their own information and underestimate the risk associated with financial assets, which leads to significant irrationality in investing decision-making, according to (Nikolic & Yan, 2014)

When investors have high levels of confidence in his skills and knowledge, it is called overconfidence (Bouteska & Regaieg, 2018). Investors invariably tend to place a greater weight on their private information than on publicly available information.

Overconfidence and herd mentality are prevalent among investors, according to various studies. In the study conducted by (Kartini, 2021) the herding behaviour of investors was found to have a large influence on investing choices, suggesting that investors frequently rely on group knowledge from other investors rather than individual information. Due to their preference for other people's investment decisions above their own, this is how investors respond impulsively to changes in others' decisions. (Misuraca & Teuscher, 2022) highlighted that heuristics are short-cuts that people use to make decisions in difficult, ambiguous circumstances.

Overconfident traders, according to Odean, often absorb information from multiple sources, engage in frequent trading, and improperly manage and limit risk (Odean T. , Are Investors Reluctant to Realize Their Losses?, 2002)

The outcome of the study by (Mallik & Munir, 2017) suggested that loss aversion bias and overconfidence bias have an impact on investors. Both biases significantly affect the results.

2.2.6 (h) Common literature on key Cognitive Biases.

(Mahina, Muturi, & Florence, 2017) studied the impact of behavioural biases on Rwanda Stock Exchange investment. Creating the impact of self-serving bias, overoptimism bias, loss aversion, self-attribution bias, and confirmatory bias on investment is his specific goal. The study's foundation was established by the prospect theory, heuristic theory, and herding theory. He attested to the substantial positive linear correlation between stock market investing and self-serving bias, overoptimism bias, self-attribution bias, and confirmatory bias. He concluded that behavioural biases affected most stock market investors.

2.2.7 Personality Traits

Another crucial aspect of psychology is the study of personality. Three well-known methods for studying human personality are Carl Jung's Neo-Freudianism, Sigmund Freud's Psychoanalytical Approach, and Karen Allport, Cattell, Zuckerman, and others' Personality Traits Approach; Bandura, Rotter, Skinner, and others' Learning Theories; Horney and Alfred Adler; Carl Rogers and Abraham Maslow's Humanistic Approach. (Zuckerman, 2009). Currently, the Trait Approach is the framework in which psychologists conduct most of their personality research. Personality traits are consistent aspects of personality that range from extremely low to extremely high. The core idea of the trait theory approach to personality is that, after identifying the primary dimensions along which individuals differ, it is possible to quantify how much these differences exist and then link them to significant behavioural patterns. In the context of trait theories, three important works are most frequently cited. Gordon Allport's (1965) initial attempt was the first and earliest, and he concluded that personality traits could be categorised into multiple groups that differed in significance. He referred to these as cardinal, central, and secondary qualities. Allport also discussed functional

autonomy, which is the idea that people retain behavioural patterns for reasons other than the ones that initially caused them.

The second, more advanced attempt to measure individual differences on hundreds of personality traits was made by Raymond Cattell et al., who studied thousands of people in detail. He then identified clusters of qualities that are closely related using factor analysis. Cattell et al. used this method to identify sixteen source qualities, which they claim are aspects of personality that underpin variations in numerous other, less significant, surface features. Not assertive versus dominant, trusting versus suspicious, undisciplined versus self-disciplined, easily agitated versus calm and stable, and cool versus warm were some of the source features that Cattell discovered.

The "Big Five" Theory of Personality, developed by (Terracciano, Costa, & McCrae, 2006), is the third and currently most reliable trait theory. It suggests that there are only five major or central dimensions of personality—extraversion, agreeableness, conscientiousness, emotional stability, and openness to experience—along which all people range from extremely high to extremely low. Despite certain critics, the big five dimensions are now widely acknowledged.

The following five personality variables are included in the BFF model: 1) Conscientiousness: thoughtful, self-disciplined, prompt, dependable, and capable; 2) Agreeableness: unselfish, believing, team player, and obedient; 3) Neuroticism: anxious, fearful, worry some, self-conscious, and impulsive; 4) Openness to Experience: willing to try new things, intellectually curious, art and nature lover, preferring variety, and sensitive to emotions.

Although there are many factors that affect a person's feeling of risk, personality traits are the most important. Additionally, as every individual is different, their financial goals also vary. Since these traits influence the choices that investors make about their financial objectives, it is critical for financial advisors to understand them. Furthermore, financial planners can better customise their products and services to match the demands of potential customers by examining the connection between personality traits and investing objectives (DeBondt, Forbes, & P., 2010).

Several researchers have tried to investigate the connection between investors' decision-making process and personality type (Akerlof & Shiller, 2010); (Camerer, Issacharoff, Loewenstein, O'donoghue, & Rabin, 2003); (Pompian & Longo, 2004). According to (Szyszka, 2013), psychological elements like moods, emotions, or personality features have a big influence on how people decide what investments to make.

According to (Durand, Newby, Tant, & Trepongkaruna, 2013), personality is important for understanding the investment decision-making process and for helping to develop a logical finance theory with behavioural underpinnings. Furthermore, according to (Fung & Durand, 2014), personality traits are acknowledged as the most important component among all those that impact and influence an individual's behaviour.

A review of all the different approaches and theories of personality leads to the conclusion that trait theories are by far most useful since trying to comprehend individual differences seems to

be an effective strategy for comprehending the distinctiveness and consistency of important facets of human behaviour.

(Schaefer & Williams, 2004) used the Big Five personality model to study the connection between personality factors and overconfidence biases. According to the study, extraversion and overconfidence biases have a favourable association. People that are extraverted like to use short-term selling techniques. The experimental study performed by (Trinugroho & Sembel, 2011) offered empirical data in support of the excessive trading theory, which contended that high overconfidence behaviour will provide investors a tendency to use aggressive and excessive trading strategies. It would ultimately result in unsatisfactory investment performance. Overconfidence causes transactions to occur too frequently and in an excessive amount, which lowers investment performance. (Zaidi & Tauni, 2012) in their study analysed how overconfidence bias, demography, and personality characteristics affect equities investors' investing choices at the Lahore Stock Exchange. According to the study, agreeable personality traits investors tend to be very overconfident in their investment choices. In the research study by (Kübilay & Bayrakdaroglu, 2016) conclusions showed that there was a connection between an investor's personality traits and psychological biases, and that this association affected the investor's financial risk tolerance. Investors who participated in the study had a low threshold for financial risk, making them particularly vulnerable to the representativeness heuristic. They demonstrated the agreeableness personality characteristic more, and those who experienced psychological biases most frequently were pleasant individuals, whereas those experiencing psychological biases least frequently were neurotic individuals. Meanwhile, to prevent overconfidence bias, investors with stronger extraversion and openness personalities should be able to conduct further research and closely monitor the information on the market. Study conducted by (Hunter & Kemp, 2004) and (Sachdeva & Lehal, 2023) investigated the impact of personality on investment choices by examining investors risk profiles. Investor actions were significantly influenced by neuroticism, agreeableness, extraversion, and conscientiousness. (Lai, 2019) performed an analysis of the Taiwanese stock market. The study's findings showed that people's attitudes, subjective norms, and perceived behavioural control all significantly impact their choices about stock investments. Kind and open-minded people are more vulnerable to the arbitrary norms. Conversely, people with neurotic tendencies usually have unfavourable opinions about stock investing. (Bhola & Zanvar, 2021) and (Furnham, 2023) in their study highlighted that a person's investment is significantly influenced by their personality attributes.

2.2.7 (a) Openness to experience

The quality of a person's personality that motivates them to grow and try new things is referred to as openness to experience. According to (Costa & McCrae, 1992), this personality attribute encompasses traits such as creativity, originality, curiosity, and inventiveness.

Open-mindedness is linked to key characteristics such as intellectual curiosity, inventiveness, and broad-mindedness (Chauvin, Hermand, & E.Mullet, 2007), (McCrae R. , 2008).

Openness to experience is a personality attribute that positively influences long-term investments in business school undergraduates in the United States, according to (Mayfield,

Perdue, & Wooten, 2008). Additionally, people with high openness to experience are more inventive, flexible, inquisitive, and unconventional; they also typically take greater chances and try new things.

Investors with this characteristic prefer to buy equities and have a higher risk tolerance (Nga & Ken Yien, 2013).

A high openness rating is linked to a high-risk tolerance, per a previous study (Pan & Statman, 2013). Investors that are "open to experience" take on greater risk than their competitors, claims (Nandan Tanuj & Saurabh, 2016). It entails having an active imagination, being sensitive to aesthetics, being aware of one's inner sentiments, enjoying variety, being intellectually curious, and being open to trying new things and accepting novel concepts. (Camps, Stouten, & Euwema, 2016). One aspect of cognitive style that sets individuals who are innovative and creative apart from those who are practical and traditional is openness to experience. People who are receptive to new experiences are more perceptive, impulsive, intellectually curious, sensitive to beauty, and emotionally more conscious (Williamson, 2018).

2.2.7 (b) Conscientiousness

According to (Costa & McCrae, 1992), the conscientiousness component of personality refers to an individual's meticulous, resolute, organised, disciplined, orderly, responsible, dependable, and goal-oriented qualities. An ordered, controlled, determined, and successful way of doing things is represented by the traits of a conscientious person, which include duty, vigilance, rationalism, and orderliness (Goldberg, 1999). Conscientious people accomplish things and finish tasks because of their perseverance and self-control. Controlling, directing, and regulating one's impulses are all aspects of conscientiousness. These people always aim to accomplish their goals and have high standards. The researchers also claim that those who exhibit this trait more often are cautious, trustworthy, industrious, systematic, and ambitious. These people are well-organised, so they consider all options carefully before taking any risks. (Bakker, Van Der Zee, Lewig, & Dollard, 2006). (Gunkel, Schlaegel, Langella, & Peluchette, 2010) observed that conscientious people actively participate in decision-making as well. These people tend to be methodical, and because they value accuracy and timeliness in their work, they favour frameworks that facilitate task completion. (Duckworth & Weir, 2011), (Donnelly, Iyer, & Howell, 2012) stated that financially conscious individuals practise proactive retirement planning and saving practices. In the study by (Gohary & Hanzae, 2014) it was been demonstrated that less compulsive and impulsive trading behaviour is associated with a lower conscientious score. Conscientious persons are more likely to be cautious and rational in risky situations and make sensible decisions in risky circumstances, according to (Wang, Xu, Zhang, & Chen, 2016). People who exhibit conscientiousness are categorised as logical, knowledgeable, and self-assured. (Terblanche & Heyns, 2020).

2.2.7 (c) Extraversion

One of the personality types suggested by the Big Five Factor Model is extraversion. "The act, state, or habit of being primarily concerned with and obtaining gratification from what is outside the self" is how Webster's dictionary describes extraversion. People that exhibit

extrovert tend to be more upbeat, self-assured, domineering, vivacious, and enjoyment-seeking. (Dalsky, Gohm, Noguchi, & Shiomura, Mutual self-enhancement in Japan and the United States , 2008) in their study highlighted that extroverts are more likely than introverts to pay attention to and be open to positive information rather than negative information. Financial advisors may also be consulted, but they nevertheless make hopeful, forward-thinking choices. An extrovert may make such choices by overestimating the market and underestimating the potential threats. Negative attitudes, however, can cause introverts to overestimate risks and pass up lucrative financial possibilities. According to the study conducted by (Mayfield & Perdue, Investment management and personality type, 2008) extraverted people participate in short-term investing. People that are risk averse do not invest for the long run. Long-term investing is more likely to be done by people who are more open to experience; however, openness did not predict short-term investing. Since extroverts are influenced by outside stimuli, (Dewberry, Juanchich, & Narendran, 2013) concluded that extroversion and impulsivity are related traits. Making decisions about investments may be impacted by this. These people make quick choices and concentrate more on investments that are simple to join or exit. According to Charles and Kasilingam (2014), extroverts are "adventurous, sociable, and talkative." Extroverts are also drawn to activities that involve big social gatherings, relish time spent with others, and find solitude intimidating. Extroverts become energised when they are with other people, and they get bored easily when they are by themselves. The authors (Phung & Khuong, 2016) in their work examined how extraversion and neuroticism affected their ability to make financial decisions. The trading habits of people in the asset market are also captured by this study. They discovered that extroverts spend more money on assets. Less hazardous assets are held by those who exhibit neurotic tendencies. This was demonstrated using exploratory factor analysis.

In the study conducted by (Sadi & Hassan, 2011) it was determined that there is a significant correlation between investor personality and perceptual errors in the stock market of Tehran, and these findings are consistent with most of the research. Traits like extroversion, agreeableness, conscientiousness, neuroticism, and openness had significant impact on the Investment decision making of Individuals. The study conducted by (Raheja & Dhiman, 2017) concentrated on the relationship between investor personality factors, and investing decisions. Using a standardised questionnaire, information was gathered from 500 investors who invest through LSE Securities Ltd in Punjab. The study discovered a statistically significant relationship between investment decisions and personality factors. The study by (Choudhary & Subramanian R, 2019) discovered a strong and favourable correlation between a person's tendency for taking risks and their investment behaviour. Accordingly, the correlation analysis discovered that riskier investment decisions are more likely to be made the more risk-taking tendency there is. People who take on a lot of risk frequently make risky investment choices. According to the findings by (Nauman Sadiq & Khan, 2019), individuals who exhibit the personality traits "Extraversion," "Agreeableness," and "Conscientiousness" have a good effect on Short Term Investment Intention. Additionally, the results showed that people with the personality qualities "Extraversion" and "Conscientious" significantly improved their Long-Term Investment Intention scores. These findings suggest that people who are motivated, organised, and active also have long-term financial goals and are more receptive to Long Term

Investment Intention. (Priyadharshini, 2020) in her study revealed that it is possible for a person to exhibit more than one personality attribute. The influence of various personality factors on investment decisions was tried to be measured. The results showed that the model is accurate, and each variable was in the acceptable range of the model fit indices. Furthermore, the study has provided empirical evidence that the personality attribute of conscientiousness has significant impact on how retail investors decide which investments to make.

2.2.7 (d) Agreeableness

Compassion, caring, trust, and cooperation are traits of agreeableness. People who are agreeable are thoughtful, courteous, amiable, calm, giving, and selfless. These individuals seek to get along with others and have an optimistic view of human nature.

Additionally, according to (McCrae & Costa Jr, 1991) "Agreeable people tend to exhibit a strong work ethic and are more likely to experience happiness because they love to have close interrelationships and possess higher life satisfaction as well. According to this characteristic, "altruism, personal warmth, sympathy towards others, helpfulness, and cooperation" are displayed. Individuals who score highly on agreeableness, according to (Cloninger, Przybeck, Svrakic, & Wetzel, 1994) , "trade stocks intensively and follow herd behaviour in the capital market. "People with low agreeableness scores are typically sceptical and inquisitive. "People who are agreeable have happy and fulfilling relationships with others." (Organ & Lingl, 1995)

(McCrae & P.T., 1997) those who are pleasant stay out of arguments with other people. They consider all information from others favourably and without scepticism.

(Digman, 1997) asserted that agreeableness is the foundation of humanistic traits including compassion, altruism, nurturing, emotional support, animosity, and many more. He concluded that those who are more agreeable are more adaptable to choices. These investors are understanding and cordial, and they frequently base their choices on the information at hand.

"Agreeableness refers to an individual being more forgiving, considerate, and lenient," according to (Cooper D. , 2003).

(Mayfield, Perdue, & Wooten, Investment management and personality type., 2008) in their study highlighted that in a team, people who are agreeable perform well. Stated differently, they have strong teamwork abilities. However, because they follow as team members rather than voicing their own thoughts, this feature has a negative correlation with leadership abilities. As a result, they do not advance in the company.

Several research have found a positive correlation between risk aversion and agreeableness. (Borghans, Heckman, Golsteyn, & Meijers, 2009)

According to (Sadiq & Khan, 2019), those who are agreeable find it difficult to make their own financial choices. Because of this, they depend on the judgement of financial analysts.

2.2.7 (e) Emotional Stability

Emotional stability is commonly used as the opposite of neuroticism in the Big Five personality model. Emotional stability denotes a person's capacity to maintain composure, resilience, and

efficient stress management, whereas neuroticism describes a person's propensity to feel negative emotions like worry, melancholy, and mood swings. (Butler & Mathews, 1987)highlighted that while making any type of investment decision, neuroticism strongly encourages risk aversion to lessen the vulnerability threat by signalling the existence of possible risks. Additionally, according to (Costa & McCrae, 1992), neurotic people are more prone to stress, insecure, and anxious than people with good emotional stability. People who are neurotic react badly to stimuli since they are often reactive when handling their emotions. People who are neurotic often react more intensely than others. As a result, these individuals are more inclined to perceive tiny annoyances as very challenging and everyday circumstances as potentially fatal. Additionally, (Dalsky, Gohm, Noguchi, & Shiomura, Mutual-self enhancement in Japan and the United States., 2008) highlights that neurotic people are more likely to emphasise the negative parts of information. Crucially, though, neurotics do not necessarily have low scores for good emotions and feelings, even while they may have high scores for negative ones. Neuroticism is associated with a lack of effective cognitive skills, weak analytical abilities, and poor critical thinking and conceptual understanding and emotional stability as a trait is a contrast involving effective cognitive skills, strong analytical abilities, and good critical thinking and conceptual understanding according to (Chudzikowski, Fink, Mayrhofer, & Migliore, 2011). These traits often cause anxiety and a fear of failing, as well as a freezing of higher-order cognitive functioning. Those with high neuroticism are therefore more likely to feel anxious, angry, envious, and guilty, among other negative emotions. Furthermore, a high positive correlation between neuroticism and risk aversion was demonstrated by (Anderson, Burks, & Deyoung, 2011) and (Becker, Deckers, Dohmen, Falk, & Kosse, 2012). According to the authors, (Hidayah & Kustina, 2020) investors with higher neuroticism personalities should aim for point profit and cut-loss targets to prevent losses from the herding effect and disposition bias. Neurotic individuals tend to exhibit traits like fear, anger, depression, easily inclined to stress, and unable to control their impulses, according to (Therasa & Vijayabanu, 2015). This personality attribute refers to a person's innate inability to handle stress. According to research, people with strong emotional stability (low neuroticism) are more positive, have lesser difficulty in handling stress, and are less likely to behave adversely under pressure. (Power & Pluess, 2015)

2.2.8 Digital Skills

(Stewart & Moninger, 1992) observed that by offering numerous advantages including future prediction and account control, technology has lowered the amount of time investors need to spend investing and improved the convenience of their lives (M Barber & Odean, 2001) claimed people often make decisions quickly when using displays. A person who receives an abundance of information online develops a false sense of knowledge and becomes overconfident in his abilities to choose stocks. Given that emerging adults spend more time watching media than doing anything else as per (Coyne & Padilla-Walker, 2013), the development of digital technologies may give them new opportunities to actively experiment with financial practises, which can help them become more financially included. The digital divide, which refers to disparities in internet access, can impact individuals' ability to access financial information online and may affect their financial literacy levels according to (Hsu,

Willis, & Smith, 2014). (Aker, Boumnijel, McClelland, & Tierney, 2016) stated how the advent of mobile banking has expanded the possibilities for investments. By transferring more money, diet variety and daily meal consumption have increased dramatically while taking up less time. With the right investments, electronic transfers could be a crucial part of solving the logistical difficulties associated with cash transfers in underdeveloped nations (H S & Shankar K C, 2017) highlighted that to invest, investors should be knowledgeable about modern technology. Investors can achieve their financial goals thanks to the combination of artificial intelligence, big data, social analytics, and consumer behaviour learnings. Users will not only get the finest advice, but also follow-up counsel to make sure they are on track to meet all their financial needs. (Solanki & Wadhwa, 2019) pointed that after digitalization, investor behaviour changed. Additionally, the way information is presented to investors for them to make an investment decision has altered due to the use of digital technologies. The use of digital technology has also been linked to several advantages for investors, including an open platform for comparing investment options, the ability to compare returns easily, and the ability to browse investment-related possibilities on the internet. According to the study conducted by Global Partnership for Financial Inclusion (Goodwin Groen & Klapper, 2020) women in many countries face challenges in accessing the technology used in digital financial services, such as lower rates of cell phone ownership, particularly smartphones, and less internet access. It has been observed that in India and Indonesia women are less likely than males to have mobile phones and Internet access. In India, the gender disparity in SMS reading and sending was found to be 51 percentage. . (Kusuma Negara & Galuh Febrianto, 2020) stated that millennial generation's interest in investing is significantly impacted by information technology advancements. (Khera, Ng, & Ogawa, 2021) in their study on Digital Financial Inclusion pointed that quick uptake of digital technology in the financial sector presents a significant opportunity to boost financial inclusion, or the availability and use of financial services by a broad portion of the population. Digital financial services (DFSs), which are made possible by fintech the financial industry), can aid in overcoming the frequently mentioned challenges to traditional financial services access, such as cost, distance, and information asymmetry. The analysis in the (Aker & Rakibul Anwar, 2021) paper supported the conclusion that Mobile banking is vital for boosting penetration, accessibility, and usage of financial services in developing nations. The IFI of the 17 nations chosen demonstrated that the only way to significantly change financial inclusion is to use mobile banking to offer financial services to unbanked people. Additionally, low-income individuals in developing nations are more habituated to mobile banking services than ATMs of a business bank.

2.2.9 Demographics

(Benzion, Benzion, & Hagin, 1989) found that younger investors are more likely to participate in the stock market and make equity investments, taking advantage of the possibility of long-term capital growth. To reduce risk and protect wealth, senior investors, on the other hand, might take a more cautious stance, preferring fixed-income assets and shorter investment horizons. Individual investors' time horizon and investment horizon preferences are also influenced by their age. According to this survey, younger investors tend to have longer investment horizons and are more willing to withstand short-term market swings in favour of

long-term growth opportunities. (Gomes & Michaelides, 2005)indicated in their research that becoming older may have a detrimental effect on people's capacity to make wise financial choices. Nonetheless, elder investors are probably more seasoned and have a stronger comprehension of the core ideas of investing. They might be able to make better investing decisions with the help of this collected knowledge. According to theoretical models of portfolio selection, people's investment portfolios become less risky as they get older because they have shorter investment horizons and are more risk averse. Additionally, as they get older and more seasoned, investors may learn from their trading experiences and become less vulnerable to behavioural biases.

Additionally, they noted in their study that life expectancy and retirement planning are two age-related characteristics that might have a big impact on investment horizon preferences. (Korniotis & Kumar, 2009)examined the relationship between investment performance and age. According to their research, people's cognitive capacities tend to deteriorate with age, which lowers investment performance. On the other hand, young investors who are just starting out in their careers and are unfamiliar with the equities market exhibit the greatest potential for taking on market risks and perhaps earning profits.

(Chaulk, Johnson, & Bulcroft, 2003)discovered that when faced with market volatility and investment losses, married people may exhibit greater emotional stability and resilience. During times of market uncertainty, the presence of a supportive spouse can offer perspective and emotional security, assisting investors in maintaining focus on long-term investing objectives. (Keller & Siegrist, 2006)indicated that married people might be less prone than single people to emotional biases and illogical decision-making. Marriage's shared decision-making procedures and emotional support can foster discipline and rationality in investment behaviour. Financial advisers can assist clients in navigating emotional biases, managing stress connected to investments, and making more informed and logical decisions in volatile market settings by comprehending how marital status affects emotional influences in individual investor decision making.

(Dorn & Huberman, 2005)highlighted that those with higher annual earnings may be overconfident in their ability to make investments, which could result in less-than-ideal choices and higher portfolio risk. On the other hand, people with lesser earnings might use more cautious investing techniques since they are more afraid of losing money. These results highlighted how annual income and risk tolerance interact intricately to influence investment behaviour.

According to (Tekce, Yilmaz, & Bildik, 2016), investors with higher incomes exhibit greater self-control and greater confidence in their capacity to select equities for investment.

Findings reported by (Elizabeth, Murhadi, & Sutejo, 2020) show that investors with greater incomes are more overconfident than those with lower incomes.

Table 1 Chronological Study of the Literature Reviewed

S.NO	AUTHOR(S), YEAR	JOURNAL	THEORY(S) USED/KEYWORDS	MAJOR FINDINGS
1	Festinger (1957)	Stanford university press	Cognitive Dissonance Theory	People alter beliefs to reduce discomfort from conflicting information.
2	Feather & Simon (1971)	Journal of Personality and Social Psychology, 18(2), 173.	Self-Serving Bias, Attribution Theory	Successes are attributed to personal abilities; failures to external factors.
3	Tversky & Kahneman, 1974	Judgment under Uncertainty: Heuristics and Biases	Heuristics, Biases, Rationality Challenge	Humans rely on mental shortcuts (heuristics) leading to systematic biases, challenging the assumption of perfect rationality.
4	Tversky & Kahneman (1974)	Science.	Anchoring Heuristic, Decision-Making	Introduced anchoring bias; arbitrary initial values skew subsequent judgments.
5	Lord, Ross, & Lepper (1979)	Journal of Personality and Social Psychology 37, pp. 2098-2109.	Confirmation Bias, Belief Polarization	Decision-makers overweight evidence confirming preexisting beliefs.
6	Tversky & Kahneman, 1979	Econometrica	Prospect Theory	People exhibit risk-aversion for gains and risk-seeking for losses, disproving rational decision-making models.
7	Tversky & Kahneman (1980)	Journal of Economic Behaviour & Organization.	Prospect Theory, Loss Aversion	People feel losses more intensely than gains, leading to risk-averse behaviour.
8	Thaler & De Bondt, 1985	American Finance Association's Annual Meeting	Overreaction Hypothesis	Investors overreact to new information and underweight long-term data, causing market anomalies.
9	Ajzen (1991)	Organizational Behaviour and Human Decision Processes, 50	Financial Attitudes, Decision-Making Behaviour	Financial attitudes stem from economic and non-economic views, influencing behaviour.

S.NO	AUTHOR(S), YEAR	JOURNAL	THEORY(S) USED/KEYWORDS	MAJOR FINDINGS
10	Costa & McCrae (1992)	Psychological Assessment Resources.	Neuroticism, Stress, Anxiety	Neurotic people are prone to stress, insecurity, and negative emotions.
11	Cloninger et al. (1994)	NA	Agreeableness, Herd Behaviour	Highly agreeable investors trade intensively and follow herd behaviour.
12	Kahneman & Riepe, 1995	Aspects of Investor Psychology	Investor Biases	Identified biases and preferences affecting investment decisions, with recommendations for advisors to mitigate them.
13	Bernstein, 1996	Against the Gods – The Remarkable Story of Risk	Behavioural Finance	Investors balance risk and reward inconsistently, blending rational and emotional responses, leading to market inefficiencies.
14	Goetzmann & Peles (1997)	Journal of financial Research, 20(2), 145-158.	Cognitive Dissonance, Mutual Funds	Investors hold losing funds longer to avoid admitting poor choices.
15	Chen & Volpe (1998)	Financial Services Review7(2)	Gender Gap in Financial Literacy	Identified a significant gender gap, with women generally less financially literate than men.
16	Grable & Lytton (1998)	Financial Counselling and Planning, 9(1)	Financial Attitudes, Financial Literacy	Found a link between young people's financial attitudes and financial literacy.
17	Odean (1998)	Journal of Finance, 53(6).	Anchoring, Stock Price Predictions	Investors cling to historical prices, leading to suboptimal holding of underperforming stocks.
18	Thaler, 1999; Bell, 1996; Statman, 1995; Shefrin, 2002; Shiller, 2000	NA	Behavioural Finance Foundations	Collective work established behavioural finance as a field, highlighting how emotions and cognitive biases influence financial decisions.

S.NO	AUTHOR(S), YEAR	JOURNAL	THEORY(S) USED/KEYWORDS	MAJOR FINDINGS
19	Barber & Odean (2001)	The Review of Financial Studies, 15(2), 455-488.	Online Displays, Overconfidence	Digital interfaces encourage quick decisions and overconfidence in stock picking.
20	Bernheim & Garrett (2001)	Journal of Public Economics	Financial Advertising, Consumer Behaviour	Some advertising campaigns may lead to inflated financial expectations or excessive debt.
21	Gervais & Odean (2001)	Review of Financial Studies, 14(1), 1-27	Overconfidence, Self-Serving Bias	Traders overestimate past performance, leading to overconfidence and poor decisions.
22	Huberman (2001)	Oxford Journals 14(3), 659-680.	Familiarity Bias, Asymmetric Information	Investors favour familiar stocks due to perceived lower risk and better information.
23	Braunstein & Welch (2002)	Federal Reserve Bulletin, 88, 445.	Financial Literacy, Investment Decisions	Higher financial literacy reduces susceptibility to financial crises and misleading investment choices.
24	Barberis & Thaler, 2003; Fama, 1998	NA	Institutional vs. Individual Biases	Institutional investors are less prone to behavioural biases than individual investors due to professional management.
25	Ritter (2003)	Pacific-Basin Finance Journal	Behavioural Finance, Market Inefficiency	Highlights limitations of traditional finance in explaining market anomalies.
26	Moore (2003)	Washington State University Social and Economic Sciences Research Center Technical Report 03–39	Financial Literacy, Mortgage Costs	Individuals with low financial literacy are more likely to have expensive mortgages.
27	Anthes (2004)	Journal of Financial Planning, 13(9)	Personal Financial Literacy Definition	Defined financial literacy as the ability to understand, evaluate, and manage financial circumstances affecting well-being.
28	Ludwig & Zimper, 2004	University of Mannheim, Department of	Choquet Expected Utility (CEU), Ambiguity Attitudes,	Ambiguity Attitudes, Liquid vs. Illiquid Assets Pessimistic decision-

S.NO	AUTHOR(S), YEAR	JOURNAL	THEORY(S) USED/KEYWORDS	MAJOR FINDINGS
		Economics, Discussion	Liquid vs. Illiquid Assets	makers prefer illiquid assets over liquid ones due to dynamic instability in preferences under new information.
29	Schaefer & Williams (2004)	Journal of Research in Personality.	Extraversion, Overconfidence	Extraverts are more prone to overconfidence and short-term trading.
30	Bakker et al. (2006)	Journal of social psychology, 146(1), 31-50	Conscientiousness, Risk Aversion	Conscientious people are cautious and systematic in decision-making.
31	Kempf & Ruenzi (2006)	The journal of behavioural finance, 7(4), 204-213.	Mutual Funds, Decision Paralysis	Investors delay decisions or stick to defaults when faced with too many options.
32	Lusardi & Mitchell (2007)	Business Economics, 42(1)	Financial Literacy, Retirement Preparedness	Education fosters disciplined, long-term investment behaviour, improving risk-adjusted returns.
33	Chandra (2008)	National Conference Proceeding; FFMI IIT Kharagpur.	Cognitive Biases, Investor Irrationality	Investors often make irrational decisions due to greed, fear, and mental accounting.
34	Guiso & Jappelli (2008)	European Economic Review, 52(8),	Education, Systematic Investment Decisions	Higher education correlates with methodical investment decisions based on research and analysis.
35	Howlett, Kees, & Kemp (2008)	Journal of Consumer Affairs, 42(2)	Financial Literacy, Education, Knowledge	Financial literacy, education, and knowledge are often used interchangeably.
36	Mayfield et al. (2008), Nga & Ken Yien	Financial Services Review.	Openness, Long-Term Investments, Risk Tolerance	Openness positively influences long-term investment decisions. Investors high in openness prefer equities and tolerate higher risk.

S.NO	AUTHOR(S), YEAR	JOURNAL	THEORY(S) USED/KEYWORDS	MAJOR FINDINGS
37	Al-Tamimi & Bin Kalli (2009)	The Journal of Risk Finance	Financial Literacy, Gender Gap	Women are less financially literate than men, impacting their investment choices.
38	Calvet, Campbell, & Sodini (2009)	American Economic Review, 99(2)	Education, Risk Perception	Higher education leads to better risk assessment and willingness to take calculated risks.
39	Lusardi & Tufano (2009)	Harvard Business Review.	Debt Literacy, Credit Card Behaviour	Financially literate individuals are more likely to pay off credit card debt in full.
40	Mandella & Klein (2009)	Journal of Financial Counselling and Planning, 20(1)	Financial Education, Behavioural Outcomes	Found no significant improvement in financial behaviour after high school finance courses.
41	Shim, Xiao, Barber, & Lyons (2009)	Journal of Applied Developmental Psychology, 30(6)	Financial Attitudes, Financial Behaviour	Positive financial attitudes correlate with better financial literacy and awareness.
42	Robb & Sharpe (2009)	American Psychological Association	Online Financial Education	Online finance-related websites and blogs significantly improve financial literacy and responsible spending.
43	Wang (2009)	Journal of Behavioural Finance, 10(4)	Subjective vs. Objective Knowledge, Risk Propensity	Strong link between investors' knowledge levels and their risk-taking behaviour.
44	DeBondt et al. (2010)	Qualitative Research in Financial Markets, 2(1), 29-36	Personality Traits, Financial Goals	Personality traits influence financial objectives and risk tolerance.
45	Kida et al. (2010)	The journal of behavioural finance, 11(1), 21-30.	Experience, Choice Overload	Novice investors are more prone to choice paralysis than experienced ones.
46	Lusardi, Mitchell, & Curto (2010)	Journal of Consumer Affairs, 44(2).	Demographic Factors, Financial Literacy	Gender, age, income, and education influence financial literacy levels.

S.NO	AUTHOR(S), YEAR	JOURNAL	THEORY(S) USED/KEYWORDS	MAJOR FINDINGS
47	Huston (2010)	The Journal of Consumer Affairs, 44(2)	Financial Literacy Components	Argued that financial literacy encompasses more than just knowledge and education; includes behaviour and attitude.
48	Chudzikowski et al. (2011)	Cross Cultural Management: An International Journal.	Neuroticism, Cognitive Skills	Neuroticism linked to poor analytical skills and emotional instability.
49	Lusardi & Mitchell (2011)	Michigan Retirement Research Center Research Paper, (2011-242).	Age, Financial Literacy	Older generations have lower financial literacy
50	Van Rooij, Lusardi, & Alessie (2011)	Journal of Financial Economics, 101(2)	Education, Investment Activities	Higher education increases involvement in long-term financial planning and diversification.
51	Abreu & Mendes (2012)	Journal of Economic Psychology	Herding Behaviour, Investor Confidence	Herding is prevalent in financial markets and boosts investor confidence.
52	Atkinson & Messy (2012)	NA	Financial Illiteracy, Global Impact	Highlighted the global impact of financial illiteracy and the gender gap.
53	Becker et al. (2012)	Annual Review of Economics, 4, 453-478.	Neuroticism, Financial Decisions	Neurotic individuals avoid risky investments due to fear of failure.
54	Bikas & Jureviciene (2012)	Procedia - Social and Behavioural Sciences	Behavioural Finance, Emotional Factors	Emotional and psychological factors significantly impact financial market changes.
55	Bhattacharya a, 2012	Johnson School Research Paper Series, 38(6)	Behavioural Finance, Investment Behaviour, Market Inefficiencies	Identified causal factors for irrational investing behaviour and proposed solutions to mitigate effects for better strategic decisions

S.NO	AUTHOR(S), YEAR	JOURNAL	THEORY(S) USED/KEYWORDS	MAJOR FINDINGS
56	C.J van Rooij & Lusardi (2012)	The Economic Journal	Numeracy, Financial Decision-Making	Low numeracy skills hinder individuals' ability to make sound financial decisions.
57	Pompian (2012)	Journal of Financial and Quantitative Analysis, 48, 245-275	Confirmation Bias, Investor Behaviour	Investors selectively seek information that aligns with their existing views.
58	Sohn et al. (2012)	Journal of Adolescence, 35(4)	Financial Attitudes, Financial Literacy	Young people's financial literacy is influenced by their attitudes toward money.
59	Wachira & Kihiu (2012)	International Journal of Business and Social Science, 3(19)	Financial Literacy, Financial Inclusion (Kenya)	Low financial literacy correlates with financial exclusion; demographic factors also play a role.
60	Antoniou et al. (2013)	Journal of Financial and Quantitative Analysis, 48, 245-275.	Cognitive Dissonance, Momentum Trading	Investors underreact to news conflicting with sentiment, creating momentum profits.
61	Brown & Graf (2013)	Numeracy, 6(2), 6.	Financial Illiteracy, India	Reinforced the need for measures to address financial illiteracy in India.
62	Coyne & Padilla-Walker (2013)	Emerging Adulthood, 1(2), 125-137.	Digital Media, Financial Experimentation	Emerging adults use digital platforms to experiment with financial practices.
63	De Bassa Scheresberg (2013)	Numeracy, 6(2), 5.	Financial Literacy, Confidence	Higher financial literacy boosts confidence in personal financial decision-making.
64	OECD (2013)	NA	Financial Literacy Definition	Defined financial literacy as a combination of knowledge, behaviour, and attitude for financial well-being.
65	Suresh, 2013	Journal of Finance, Accounting and Management, 4(2)	Trader Biases, Investor Attributes, Financial Judgements	Understanding biases and attributes helps individuals make wiser financial judgements and become better traders/investors.

S.NO	AUTHOR(S), YEAR	JOURNAL	THEORY(S) USED/KEYWORDS	MAJOR FINDINGS
66	Szyszk (2013)	Palgrave Macmillan	Psychological Factors, Investment Decisions	Moods, emotions, and personality traits significantly impact investment choices.
67	Yoong, See, & Baronovich (2013)	Journal of Management and Sustainability, 2(1)	Financial Literacy, Education, Knowledge	Supported the interchangeable use of financial literacy and financial education.
68	Allahverdyan & Galstyan (2014)	PLoS ONE.	Confirmation Bias, Information Processing	People interpret new information to reinforce prior beliefs, ignoring contradictions.
69	Asarta, Hill, & Meszaros (2014)	International Review of Economics Education	Financial Education, High School Students	Financial education courses significantly boost students' financial literacy.
70	Bhabha et al. (2014)	Research Journal of Finance and Accounting, 5(13),	Financial Literacy, Working Women (Pakistan)	Working women in Pakistan lack financial market knowledge, limiting their investment choices.
71	Bhushan & Medury (2014)	Indian Journal of Commerce and Management Studies, 5(3)	Financial Attitudes, Financial Education	Cultivating positive financial attitudes is key to improving financial literacy.
72	Galariotis & Rong (2014)	Journal of Derivatives and Hedge Funds	Herding Behaviour, Financial Crises	Herding intensifies during crises, significantly affecting investment behaviour.
73	Hsu et al. (2014)	National Bureau of Economic Research	Digital Divide, Financial Literacy	Disparities in internet access affect financial literacy and inclusion.
74	Lodhi (2014)	IOSR Journal of Business and Management, 16(2),	Financial Literacy, Information Asymmetry	Financial literacy helps investors reduce information asymmetry and invest in riskier products.
75	Lusardi & Mitchell (2014)	American Economic Association	Access to Financial Knowledge	Access to financial education (e.g., online resources) improves financial literacy.

S.NO	AUTHOR(S), YEAR	JOURNAL	THEORY(S) USED/KEYWORDS	MAJOR FINDINGS
76	Moir Statman, 2014	NA	Behavioural Finance, Traditional Finance, Rational vs. Regular Investors	Behavioural finance replaces the rational people in traditional finance with regular people, clarifying the distinction between the two.
77	Vijaya (2014)	International Journal in Management and Social Science	Behavioural Biases, Indian Stock Market	Identified biases (e.g., overconfidence, loss aversion) influencing Indian investors.
78	Agarwal et al. (2015)	Journal of Housing Economics	Financial Literacy, Risk Tolerance	Financially literate individuals exhibit better financial planning and higher risk tolerance.
79	Arif (2015)	Journal of Poverty, Investment and Development, 12,	Financial Literacy, Pakistani Investors	Pakistani investors have below-average financial literacy, varying by demographics.
80	Bakar & Chui Yi (2015)	Procedia Economics & Finance Elsevier.	Overconfidence, Anchoring, Loss Aversion	Overconfidence, anchoring, and loss aversion strongly influence investor decisions.
81	Bayrakdaroglu & San (2015)	Second European Academic Research Conference on Global Business, Economics, Finance and Banking	Financial Knowledge, Product Diversity	Higher financial literacy increases demand for diverse financial instruments.
82	Haque & Zulfiqar (2015)	Research Journal of Finance & Accounting, 6(21)	Financial Attitudes, Financial Literacy (Women)	Strong positive correlation between financial attitudes, literacy, and behaviour among Pakistani working women.
83	Kalekye & Membba (2015)	International Journal of Science & Research, 4(6),	Gender-Specific Financial Habits	Confirmed gender differences in financial behaviours, with women being more detail-oriented in money management.

S.NO	AUTHOR(S), YEAR	JOURNAL	THEORY(S) USED/KEYWORDS	MAJOR FINDINGS
84	Potrich & Vieira (2015)	Journal of Behavioural and Experimental Finance.	Financial Literacy Components (Knowledge, Attitude, Behaviour)	Financial literacy is a combination of knowledge, attitude, and behaviour, with men scoring higher.
85	Power & Pluess (2015)	Translational Psychiatry.	Emotional Stability, Stress Handling	Emotionally stable investors handle stress better and remain positive.
86	Aker et al. (2016)	Economic Development and Cultural Change, 1-37	Mobile Banking, Financial Inclusion	Mobile banking expands investment opportunities in developing nations.
87	Ates et al. (2016)	Business and Economics Research Journal, 1309-2448,7(3)	Behavioural Biases, Financial Literacy	Low financial literacy leads to reliance on advice and behavioural biases in decisions.
88	Kübilay & Bayrakdaroglu (2016)	International Journal of Financial Research.	Agreeableness, Psychological Biases	Agreeable investors are more susceptible to biases like representativeness.
89	Mouna & Anis (2016)	Research in International Business & Finance	Portfolio Diversification, Risk Management	High financial literacy leads to diversified portfolios, reducing risk.
90	NandanTanj & Saurabh (2016)	International Journal of Business Forecasting and Marketing Intelligence, 2(2), 128-150.	Openness, Novelty Seeking	Open individuals take on more risk and embrace new investment opportunities.
91	Wang et al. (2016)	International Journal of Project Management, 34(7), 1294-1304.	Conscientiousness, Rational Decisions	Conscientious investors make rational and low-risk financial choices.
92	Akims & Jagongo (2017)	International Journal of Scientific Research and	Financial Literacy, Investment Decisions (Nigeria)	Financial knowledge positively impacts investment choices.

S.NO	AUTHOR(S), YEAR	JOURNAL	THEORY(S) USED/KEYWORDS	MAJOR FINDINGS
		Innovative Technology.23 13-3759,4(11)		
93	Ahmad et al., 2017	Management Research Review, 40(5), 578-603.	Irrationality in Finance	Human irrationality in finance is rooted in biological, psychological, and sociological factors.
94	Bhargava (2017)	International Journal of Research and Innovation in Social Science (IJRISS)	Financial Literacy, Investor Decision-Making	Key aspects like attitude, knowledge, and budgeting significantly influence investment decisions.
95	Chu et al. (2017)	Social Indicators Research, 132(2).	Financial Literacy, Investment Outcomes	Financially literate investors prefer mutual funds; overconfidence leads to stock purchases.
96	Rehan & Umer (2017)	Market Force College of Management Sciences, 12(2)	Cognitive Biases, Pakistani Investors	Behavioural biases (e.g., anchoring, overconfidence) influence stock market decisions.
97	Gupta & Gupta (2018)	International Journal of Research in Management, Economics and Commerce	Financial Literacy, Rural Investors (India)	Financial literacy impacts rural investors' choices in savings, insurance, and stocks.
98	H S & Shankar K C (2017)	International Journal of Scientific Development and Research	AI, Big Data, Investment Advice	Technology provides personalized investment advice and tracking.
99	Kansal & Singh (2018)	Qualitative Research in Financial Markets, 10(4), 381–394.	Self-Serving Bias, Learning from Mistakes	Investors blame external factors for losses, preventing learning from errors.
100	Lusardi, Mitchell, & Oggero (2018)	American Economic Association Papers and	Financial Fragility, Emergency Savings	Financially literate individuals are better prepared for financial emergencies.

S.NO	AUTHOR(S), YEAR	JOURNAL	THEORY(S) USED/KEYWORDS	MAJOR FINDINGS
		Proceedings, 108.		
101	Roy & Jain (2018)	IOSR Journal of Business and Management, 20(5)	Gender Gap, Financial Decision-Making	Women's lower financial literacy stems from lack of education, fewer discussions, and ignorance of modern financial products.
102	S.Z.A., M., & Mahmood (2018)	Qualitative Research in Financial, 10 (1) , pp. 85-110.	Anchoring Bias, Investment Decisions	Investors rely excessively on initial/relevant information, distorting decisions.
103	J., N., & S. (2019)	Review of Behavioral, 12 (3)	Anchoring Bias, Positive Influence	Found anchoring can positively influence decisions (e.g., adherence to benchmarks).
104	Lai (2019)	Sustainability, 19 , 54-74.	Neuroticism, Negative Attitudes	Neurotic individuals have negative views about stock investing.
105	Sadiq & Khan (2019)	Journal of Finance and Economics Research, 4(1), 1-18.	Agreeableness, Dependency on Analysts	Agreeable investors struggle with independent decisions and rely on analysts.
106	Solanki & Wadhwa (2019)	International Journal of Engineering and Advanced Technology.	Digitalization, Investor Behaviour	Digital tools change how investors access and compare investment options.
107	Wagner (2019)	Journal of Financial Counselling and Planning	Financial Education, Literacy Ratings	Formal financial education correlates with higher financial literacy ratings.
108	Ahmad (2020)	Journal of Economic and Administrative , 38 (1).	Behavioural Finance, Investor Psychology	Investors make poor decisions due to psychological biases, rejecting rational models.
109	Kusuma Negara & Galuh Febrianto (2020)	Business Journal Management.	Millennials, IT Advancements	Tech advancements significantly influence millennial investment interest.

S.NO	AUTHOR(S), YEAR	JOURNAL	THEORY(S) USED/KEYWORDS	MAJOR FINDINGS
110	Terblanche & Heyns (2020)	SA Journal of Industrial Psychology Vol 46	Conscientiousness, Logical Thinking	Conscientious individuals are logical and confident in their investment strategies
111	Laryea & Owusu (2022)	Review of Behavioural Finance 15(3).	Gender Differences, Financial Literacy	Women anchor more than men; financial knowledge increases anchoring likelihood.
112	Lotto (2020)	International Journal of Financial Studies, 8(2),	Financial Literacy, Household Investments	Financial literacy shifts investments from informal to formal platforms.
113	Mehra & Indapurkar (2020)	Journal of Emerging Technologies and Innovative Research	Financial Literacy, Product Selection	Poor financial literacy limits access to high-return financial products.
114	Shukla & Jamal Rushdi (2020)	International Journal of Management	Behavioural Finance, Stock Market Anomalies	Provides psychology-based explanations for price anomalies in stock markets.
115	Jamil & Bashir (2021)	Pakistan Social Sciences Review.	Cognitive Dissonance, Emotional Intelligence	Dissonance hampers rational investment decisions by clouding emotional judgment.
116	Khera et al. (2021)	International Monetary Fund.	Digital Financial Inclusion	Digital financial services (DFS) overcome traditional barriers to financial access.
117	Yanto & Ismail (2021)	Cogent Social Sciences Volume 7, 2021 - Issue 1	Social media, Financial Literacy	Social media enhances financial literacy among youths by facilitating knowledge sharing.
118	Jamuni (2022)	International Journal of Social Science and Humanities Research	Financial Literacy, Positive Financial Behaviour	Higher financial literacy leads to better financial decisions and behaviour.

2.3 Identification of Research Gap

The literature review has highlighted that a lot of research has been done recently on investment behaviour. Numerous influencing factors such as socioeconomic background, digital skills, cognitive biases, and financial literacy have been studied. Nonetheless, because investment

behaviour is inevitably influenced by evolving economic conditions and individual decision-making patterns, its dynamics are always changing. Significant research gaps still exist despite the scope of current studies. Table summarises these gaps found in the literature review, with supporting references providing further insights.

Table 2 Summary of the gaps in existing literature

Research Gaps	Shortcomings in Existing Literature	Supporting References
Educational Achievement as a Misleading Indicator of Financial Literacy	Many studies assume that individuals with higher academic qualifications inherently possess better financial literacy and investment acumen. However, financial literacy is a distinct skill set that is not necessarily acquired through formal education, highlighting the need for targeted financial education.	(Chattopadhyay & Dasgupta, 2015), (Fernandes, Lynch, & Netemeyer, 2014), (van Rooij, Lusardi, & Alessie, 2007)
Lack of Research on Socio-Economic, Personality, and Cognitive Factors in Female Academics' Investment Behaviour	Prior studies have explored the impact of socio-economic factors, cognitive biases, and personality traits on investment behaviour in general populations. However, there is limited research focusing specifically on female academics, particularly in Kolkata, who may exhibit distinct investment patterns shaped by their educational and professional backgrounds.	(Baker, Kapoor, & Khare, 2022), (Brown & Taylor, 2014), (Durand, Newby, & Peggs, 2013), (Durand & Rosa, 2008), (Tversky & Kahneman, Judgment under Uncertainty: Heuristics and Biases, 1974)
Limited Research on Female Academics' Perception of Financial Investments	While previous studies have examined investment behaviour, there is a lack of research on how female academics perceive financial investments. Their attitudes, motivations, and concerns regarding financial planning and investment decisions remain largely unexplored.	Lusardi & Mitchell (2011); Farrell, Fry & Risse (2016); Almenberg & Dreber (2015)
Lack of Investor Classification for Female Academics Based on Risk Capacity and Investment Strategy	Existing research does not categorize female academics into investor types based on their risk capacity and investment approach. This study fills the gap by identifying four investor types, offering a structured perspective on their investment behaviour.	Barber & Odean (2001); Grable & Lytton (1999); Sahi (2017); Bajtelsmit & Bernasek (1996)
Overemphasis on Risk Aversion Among Female Investors	Prior literature often categorizes women as risk-averse investors, but there is limited empirical research on whether this stereotype holds	Bajtelsmit & Bernasek (1996); Barber & Odean (2001); Sahi (2017)

Research Gaps	Shortcomings in Existing Literature	Supporting References
	true for female academics. Understanding the nuances of their risk-taking behaviour beyond traditional gender-based assumptions is necessary.	

2.4 Research Questions

The research questions of this study are designed to explore the multifaceted influences on the investment behaviour of female academics in Kolkata. These questions aim to uncover the interplay of financial literacy, digital skills, psychological traits, and demographic factors that shape their financial decisions making.

RQ1. What are the levels of financial literacy and digital skills among respondents, and how do these levels affect their investment behaviour?

This question maps the financial literacy levels and digital skill profiles of female academics and examines how different skill combinations influence their investment activity. Existing assessment tools often overlook variations in skill composition across demographic groups (Atkinson & Messy, 2012).

RQ2. What is the association between socio-economic factors, cognitive biases, personality traits, and investment behaviour of female academics in Kolkata?

This question investigates how background variables (e.g., age, income, education) and psychological attributes correlate with investment behaviour. Behavioural finance research (Kahneman & Tversky, Prospect Theory: An Analysis of Decision under Risk, 1979) emphasizes the role of biases in financial decisions, but empirical validation among Indian women especially in academia is limited.

RQ3. What are the perceptions of female academics toward financial investment, and how do these perceptions shape their decisions?

This study analyses investment perceptions as emergent phenomena influenced by the interplay of financial literacy, digital proficiency, personality traits, and cognitive biases. Rather than isolating perception as an independent variable, the research explores how these foundational factors jointly shape investment outcomes evident in respondents risk capacity and Investment strategy. By adopting this integrated lens, the study offers deeper insights into how female academics develop investment perceptions and navigate financial decision-making within a multifaceted behavioural context.

RQ4. Which specific variables among socio-economic background, cognitive biases, personality traits, financial literacy, and digital skills significantly predict investment behaviour among female academics?

This integrative question underpins the analytical framework of the study. It aims to identify which variables have the strongest statistical association with the investment behaviour of respondents and whether these associations are positive or negative. By combining variables from finance, psychology, and digital studies, this question enables a comprehensive understanding of the key determinants of female investment behaviour, thereby contributing to both theoretical advancement and policy formulation.

2.5 Objectives of the Study

This study's main goal is to investigate the variables that affect investment behaviour, with an emphasis on digital skills, financial literacy, cognitive biases, socioeconomic background, and Big Five model-based personality traits. It also examines several sub-objectives, such as how investment decisions are impacted by the three components of financial literacy: financial knowledge, financial attitude, and financial behaviour. The study also investigates how investment decisions are influenced by cognitive biases such familiarity bias, anchoring, and overconfidence. Additionally, it evaluates the impact of digital skills in investment decision-making and looks at the importance of socioeconomic characteristics on investment choices. The specific objectives are outlined as follows:

- 1. To study the level of financial literacy and digital skills of the respondents on their investment behavior.**
- 2. To investigate the existence of association between Socio-economic background, Cognitive biases, Big Five Personality traits (Five-Factor Model) and the investment behavior of the respondents.**
- 3. To assess the overall perception of female academics towards financial investment.**

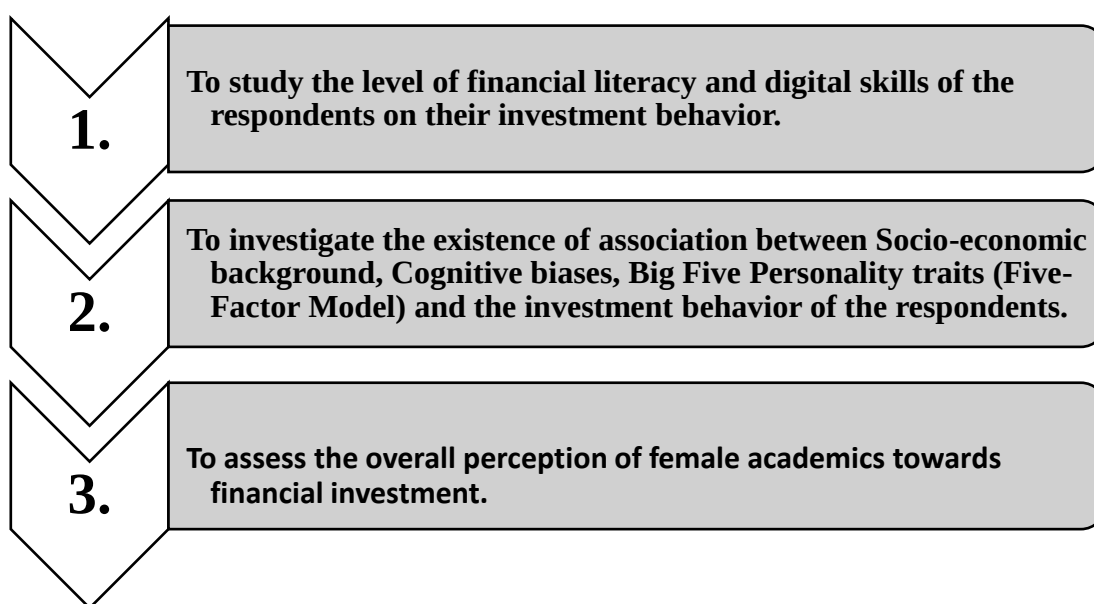


Figure 2 Diagrammatic Representation of the Objectives of the study



CHAPTER 3

Theoretical Framework

CHAPTER 3

THEORETICAL FRAMEWORK

3.1 Chapter Introduction

The present chapter builds the theoretical base of this study by drawing from multiple intersecting disciplines Investment studies, Behavioural Psychology, Financial Literacy, Digital Competence and Socio-Economic Theory. Since the study explores the investment behaviour of female academics in Kolkata through a multifaceted perspective, each of these thematic threads must be anchored in a logical theoretical narrative.

The chapter serves as a spontaneous annexe to the **preceding literature review**, extending the scholarly deliberations by organizing and elaborating upon the various **theories and conceptual models** identified in the reviewed works. While the literature review primarily aimed to highlight gaps in current empirical knowledge especially regarding the psychological and structural factors influencing investment behaviour among women the present chapter outlines the **theoretical approach adopted to address those gaps and correct the conceptual limitations** observed in earlier studies.

The initial sections focus on the domain of Investment behaviour, discussing its scope, decision-making stages, and the variety of financial instruments available to individuals. These sections also contextualize the study within the evolving landscape of female financial participation in India.

Subsequent sections explore psychological and behavioural dimensions, including cognitive biases, the Big Five personality traits, and constructs of financial literacy—each examined through theoretical lenses that explain their relevance in shaping financial decisions. The chapter also includes a dedicated discussion on digital skills, an increasingly indispensable factor in modern-day investing, especially for women navigating a digital financial ecosystem.

The final sections of the chapter examine socio-economic background as a foundational layer influencing all other constructs. This includes education, income, family responsibilities, and other structural determinants that often frame women's financial realities and opportunities.

Together, these conceptual foundations provide a multi-layered framework that not only supports the empirical structure of the study but also justifies the research design, variable selection, and analytical approach adopted in the chapters to follow.

3.2 Organisation of the Theoretical Foundation

The present chapter on theoretical foundations is structured across multiple, hierarchically arranged levels of conceptual constructs, all of which converge upon the central theme of investment behaviour. Central to the framework is the construct of investment behaviour itself, which this study is attempted to explain, interpret and understand in the specific context of

female academics in the Kolkata district. The four surrounding layers place theoretical constraints on that core. The socio-economic background of the responders comes on the innermost foundational layer. This layer develops the basic contextual substrate which shapes accessibility to resources, exposure to finance, and patterns of responsibility which, then, influences investments. The second category relates to the personality traits of an individual specifically the Big Five Personality Model (openness, conscientiousness, extraversion, agreeableness, and emotional stability), it studies how stable psychological dispositions affect the financial confidence of individuals. Further, how these traits affect the financial planning tendencies and long-term investment orientation of people is analysed. The third layer describes cognitive bias in which decisions frequently diverge from what is rational. The deviations of being overconfident and being anchored, which are caused by excessive preference for things that are familiar, confirmation bias and self-service, are widely considered a cause of unreal objective investment assessment and other behavioural anomalies. The model combines financial literacy and digital skills at the outer level, which are two critical enablers for investment. Having financial literacy can help people determine the risk and return on activities they undertake. Similarly, having digital skills can assist people in gaining access to the financial information they require and analysing and using it on new age platforms and tools.

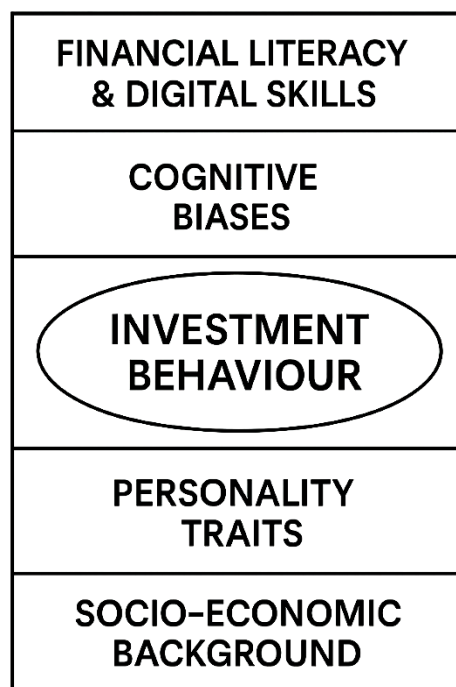


Figure 3 Conceptual Model of Investment Behaviour Determinants [Source: Researcher's conceptualization]

3.3 A) Introduction to Investment

People work to make money to meet their daily needs or for some other reason. The money can be spent, saved, or invested to achieve various goals such as education, marriage, retirement etc. These goals can be short-term or may even be long-term. earnings may be

derived from one's salary, business, or other investment. It is necessary to invest this money wisely to fulfil future requirements, keeping in mind the risks and timelines involved, and the tax aspect. In the past, lower interest rates, guaranteed returns, government-supported retirement benefits, fewer financial products, strong family support, and a sober lifestyle made it easier to manage finances without professional help – what could go wrong then? The scope and content of socio-cultural changes have transformed, especially after India's economic liberalization. Urban Indians today have a higher disposable income. However, interest rates on traditional debt instruments have fallen, often equal to inflation. There is now a wide range of financial products with various things on offer along with no assured returns. The different providers keep issuing the personal financial information continuously which calls for a critical assessment of risk, liquidity, and suitability and comparison across product categories. As living expenses and desires increase, so does our income strain. Thus, it is important to maximize returns. With a limited amount of time to manage their own finances & market having a plethora of other options, people need expert advice to do proper, disciplined financial planning. Financial counselling is getting popular because of economic growth, rising income levels, mushrooming life insurance, mutual funds, and online stock trading, among other factors.

Savers have turned to equities and other assets to outrun inflation as fixed-income investment rates decline. As a result, money once parked in fixed deposits, gold, or real estate is now shifting to alternative avenues for better returns and risk diversification. Key reasons prompting people to reassess their investment strategies include:

Increased Lifespan and Lack of Retirement Security

People today live much longer than previous generations, yet most lack guaranteed retirement benefits. In the past, individuals typically started working by age 20, retired at 58, and lived until around 65—earning for 38 years and relying on savings for just 7 years post-retirement. However, today, higher education delays the start of earning until around 25, and with early retirements becoming common, even assuming a retirement age of 60 and a lifespan of 80, one must sustain 20 years of retirement with only 35 years of earnings. The financial burden has shifted dramatically. Earlier, pensions were standard, even in the private sector, but now, most jobs—including government roles—no longer offer them. Without proper financial planning, retirement can become a struggle.

Expansion of Financial Products

The life insurance sector opened to private players in the late 1990s, leading to a surge in investment-oriented insurance plans. While LIC remains the market leader, new insurers have gained significant ground through improved products, aggressive marketing, and innovative distribution channels. Similarly, the mutual fund industry has grown substantially, with over 45 Asset Management Companies (AMCs) introducing new schemes and expanding their reach across diverse investor segments. Banks have also contributed by offering a wider array of financial products, increasing accessibility for consumers. Traditional options, such as tax-free RBI bonds, continue to hold appeal, but the sheer variety of choices now available makes informed decision-making essential.

Growing Complexity of Financial Products & Services

In the realm of finance, innovation has dramatically transformed investment accessibility. Today, individuals can easily invest in equities through Systematic Investment Plans (SIPs) in mutual funds. However, many investors lack a clear understanding of how these funds operate or how market volatility affects their investments. This often leads to a sense of invincibility after just a few months of market rallies. Similarly, products like Unit-Linked Insurance Plans (ULIPs), which combine insurance with investment, require careful consideration regarding their design, cost structure, and alignment with one's financial goals. What investors truly seek are expert advisors who can cut through the jargon and provide personalized guidance, helping them make informed decisions that genuinely fit their financial needs.

Rising Incomes & Savings

India has enjoyed sustained 5-8% GDP growth largely from domestic consumption. That growth has increased incomes, including for an urban middle class. Yes, unlike in many developed countries, Indians have a decent savings culture and household savings are over 25% of the GDP. Yet saving by itself is not the solution savvy investors need the tools to do more with their savings and make smart investments in markets that make sense while reducing risk.

Rising Personal Debt

The abundance of credit in today's capital markets is fuelling a surge in consumer debt. While low interest rates encourage borrowing a welcome development it is essential that loans are used responsibly, with a focus on timely repayment to prevent debt from spiralling out of control. For college students, having access to clear, practical information on managing debt wisely is crucial. Sensible guidance can help borrowers enjoy the benefits of credit without becoming overburdened or financially vulnerable during their academic journey.

Shifting Financial Aspirations

Today's financial dreams stretch past the old retirement age planning. Having better access to credit and more disposable income, people today desire to do and can do more: buy a home at an earlier point, give their kids top-notch education, go on lavish vacations, afford fancy living, and save enough for retirement.

Financial Independence in Nuclear Families

In olden times, joint families provided a collective safety net, but today's urban nuclear families should rely on self-sufficiency. With members often living apart, these smaller households need concrete and independent financial plans to secure their futures.

Navigating Financial Information Overload

While digital platforms have made financial knowledge more accessible, the absolute volume of information can be overwhelming and confusing. Several investors feel extracting actionable insights from the flood of data available is quite challenging. This paradox creates a growing need for financial advisors who can distil complex information into clear and tailored guidance.

3.4 Scope of Investment Planning and Management

Investment planning and management encompasses all facets of personal finance, offering individuals the flexibility to manage their finances independently or with the assistance of qualified financial advisors. These professionals provide customized solutions tailored to a client's unique needs, drawing on their expertise, collaborations with financial product providers, educational background, and adherence to regulatory standards. Core areas of focus in this field include:

3.4.1. Insurance Planning

"Insurance planning is the process of assessing and securing the right amount of coverage to safeguard against potential risks, such as those involving life, unexpected health issues, and valuable assets." When evaluating insurance needs, individuals should consider:

- **Income Replacement:** If the primary earner passes away prematurely, the family's income may stop or drop significantly. A financial safety net is necessary to cover daily expenses, debts, and future liabilities.
- **Health Coverage:** How much health insurance is required to safeguard the individual and dependents during medical emergencies?
- **Specialized Policies:** Which accident or critical illness policies best suit the person's needs?
- **Asset Protection:** Is insurance needed for household possessions?
- **Risk Assessment:**
 - Does the individual have adequate coverage?
 - What risks threaten their income-earning ability?
 - What risks could lead to loss of owned assets?

3.4.2. Retirement Planning

Retirement planning focuses on calculating the funds needed to sustain living expenses post-retirement and strategies to build that corpus during working years. It also addresses how to manage accumulated savings during retirement. For those nearing or already retired, investment management involves generating income from the retirement fund and maintaining the portfolio. Key considerations include:

- **Corpus Calculation:** How much is needed to maintain the same lifestyle after retirement?
- **Inflation Impact:** How will rising prices affect the longevity of retirement savings?
- **Investment Options:** What choices are available, and how do they contribute to retirement goals?

- **Early or Delayed Retirement:** Can the individual retire early, or might they need to work longer due to insufficient savings?
- **Additional Investments:** What extra steps should be taken to build a robust retirement fund?

3.4.3 Investment Planning

Investment planning involves identifying the most suitable investment and asset allocation strategies based on an individual's financial goals, risk tolerance, and investment horizon. With a wide array of investment options available today, individuals must carefully assess different asset classes and the products within each before finalizing a strategy. Key considerations include:

- **Goal Alignment:** What are the individual's life goals, and how can they be translated into financial objectives?
- **Risk Assessment:** What is the investor's risk appetite?
- **Time Horizon:** What is the expected duration for achieving these goals?
- **Asset Allocation:** What is the ideal mix of assets, and which allocation strategy should be followed?
- **Diversification:** How can investments be diversified to mitigate risk?
- **Investment Objective:** Is the focus on income generation, capital growth, or wealth preservation?
- **Investment Approach:** Should funds be invested as a lump sum or through systematic contributions to meet the target?

3.4.4 Tax Planning & Estate Planning

"Tax planning is the strategic organization of income, expenditures, and investments to optimize tax efficiency and take full advantage of existing legal provisions. Key components of this process include: "Key aspects to address include:

- **Tax Optimization:** Is the individual utilizing all available tax deductions and exemptions?
- **Liability Reduction:** How can tax burdens be minimized while enhancing post-tax returns?
- **Regulatory Awareness:** What recent or upcoming tax law changes could impact cash flows, savings, or investments?
- **Capital Gains:** How do capital gains affect overall tax liability?
- **Tax Computation:** How can one accurately estimate tax obligations for the previous year?

- **Strategic Planning:** How to move beyond last-minute tax-saving measures and adopt a proactive approach?

Estate planning ensures the orderly transfer of assets while minimizing tax implications and legal complexities.

3.4.5 Comprehensive Financial Planning

This approach encompasses all critical financial decisions—whether it's buying a home or car, funding a child's education, preparing for retirement, or preserving wealth. It goes beyond immediate needs to ensure long-term financial stability, effective cash flow management, and sustainable asset growth. Key pillars include:

- **Goal-Based Planning**

Aligning financial strategies with both short-term milestones (e.g., saving for a vacation) and long-term objectives (e.g., retirement or generational wealth transfer).

- **Risk Mitigation**

Protecting against unforeseen liabilities (e.g., lawsuits, medical emergencies) and uncertainties (e.g., market volatility, job loss) through insurance, emergency funds, and diversification.

- **Tax Efficiency**

Structuring income, investments, and transactions to minimize tax burdens while complying with current laws (e.g., leveraging tax-deferred accounts, harvesting losses).

- **Integrated Strategy**

Developing a flexible, cohesive plan that evolves with life stages (e.g., marriage, career changes) and shifting financial priorities (e.g., shifting from growth to income-focused investments).

3.4.6 Transaction-Based Services

Financial advisors may charge a fee for comprehensive planning services or offer advisory support for free, earning commissions on product sales when clients act on their recommendations. This model allows flexibility in service delivery while ensuring clients receive tailored guidance.

3.5 Understanding the Financial Position of the Investor

3.5.1 Net Worth

Net worth reflects an individual's financial health at a specific point in time, calculated as the difference between their total assets and total liabilities. Often referred to as a balance sheet, this statement provides a snapshot of financial standing by detailing:

- **Assets:** What the person owns (e.g., cash, property, investments).
- **Liabilities:** What the person owes (e.g., loans, debts).

- **Net Worth:** The residual value after subtracting liabilities from assets.

The fundamental relationship is expressed as:

$$\text{Net Worth} = \text{Assets} - \text{Liabilities}$$

This equation highlights the principle of "what you own minus what you owe." Tracking net worth over time helps assess financial progress. Significant fluctuations—whether increases or decreases—signal the need to review and adjust financial strategies.

3.5.2 Assets

Assets are resources with economic value that can be converted into cash or its equivalents. Even cash itself qualifies as an asset.

3.5.2.1 Asset Classes for Individuals

Assets can be categorized into three broad classes:

1. Cash and Cash Equivalents

- The most liquid assets, including:
 - Physical currency.
 - Bank account balances.
 - Negotiable instruments (e.g., checks, money orders, bank drafts).

2. Short-Term Investments

- Investments held for a brief period (typically 3 months to 1 year).
- Aim to provide liquidity with minimal risk while earning modest returns.
- Examples: Short-term fixed deposits, treasury bills, or money market funds.

3. Long-Term Investments

- Investments designed to grow wealth over extended periods (1–10+ years).
- Aligned with future financial goals and often involve higher risk for higher returns. Includes:
 - **Financial Investments:** Stocks, bonds, mutual funds.
 - **Physical Assets:** Real estate, gold, jewellery, or land.
 - Some physical assets (e.g., rental properties) generate income.
 - Others (e.g., a primary residence) serve personal use but appreciate.

3.5.2.2 Personal Liabilities and their Influence on Investment Behaviour

Understanding liabilities is critical for comprehensive financial planning, as liabilities often dictate available surplus and risk appetite. For female academics juggling career and family, managing liabilities strategically is an essential component of investment decision-making.

- **Home Loans:** As long-term obligations go, home loans are a traditional method of asset generation. Property purchase for female academics may be considered as not just investment but as procuring residence security in urban areas such as Kolkata.
- **Vehicle Loans:** A vehicle loan is a short-term liability that gets you from point A to point B and appreciates in value. Because there is a great opportunity cost, they are generally scheduled with savings goals.
- **Personal and Credit Card Loans:** These unsecured lines of credit are expensive, because they come with high interest rates. Excessive reliance upon this kind of debt can be extremely detrimental to investment prospects. This is why it is important for people to be financially literate so that they stop relying on those things.
- **Educational Loans:** Taken for self or dependents, these liabilities are viewed more as enablers of future income. They carry tax benefits and delayed repayment options, making them less burdensome during the loan tenure.
- **Loans Against Assets:** Many female academics also opt for secured credit against fixed deposits, insurance, or gold, especially for meeting short-term liquidity requirements without liquidating core investments.
- **Overdraft Facilities:** Available to those with current accounts, overdrafts are typically short-term financial cushions but are used cautiously due to higher cost structures.

3.6 Investment Strategy and Asset Allocation

Conceptualising Investment Strategy

Investment strategy refers to a planned and structured approach to allocating financial resources across different asset classes to meet specific financial goals within defined time horizons and risk preferences. In the context of female academics, investment strategy is shaped not only by individual income and life-stage considerations but also by psychological and contextual variables such as financial literacy, digital awareness, personality traits, and socio-economic conditions.

An investment strategy involves careful selection of financial instruments to ensure capital preservation, growth, or liquidity depending on the investor's objectives. The advisor—or, in many cases, the investor herself—undertakes a needs-based assessment to develop a suitable investment plan. For instance, a long-term goal like retirement planning may warrant equity-based instruments, whereas short-term needs, such as an emergency corpus, require liquidity-focused assets.

Thus, investment strategy is both an expression of the investor's risk tolerance and an operational tool for managing uncertainty, inflation, and market volatility. It becomes especially significant for women investors balancing career, household responsibilities, and long-term security needs.

3.6.1 Asset Allocation as a Strategic Tool

Asset allocation represents a cornerstone of sound investment planning. It refers to the distribution of investment capital across various asset classes—such as equity, debt, real estate, or liquid funds—in accordance with an investor's risk profile, time horizon, and financial objectives.

Numerous studies in personal finance assert that asset allocation is the most influential factor determining a portfolio's overall risk-return characteristics, more so than individual instrument selection or timing. For female academics, particularly those new to investing or with limited time for active portfolio management, a well-structured asset allocation strategy provides a clear, disciplined framework.

Several factors guide asset allocation decisions:

- **Investor-specific factors** such as age, income level, number of dependents, job security, and psychological traits (e.g., risk aversion or emotional stability).
- **Goal characteristics**, such as the time available for goal achievement (short-term vs long-term), and the sensitivity of the goal to investment performance.
- **External economic factors**, including prevailing interest rates, inflation trends, and stock market conditions.

For example, if an academic is planning for a financial goal 10–15 years away—such as retirement or a child's higher education—an equity-oriented portfolio may be recommended. This is because equities, despite their short-term volatility, have historically delivered returns that outpace inflation over the long run. On the other hand, for near-term goals, such as buying a car or creating a contingency fund, a debt-dominated portfolio offers stability and predictable returns.

3.6.2 The Importance of Rebalancing

An integral part of strategic asset allocation is periodic rebalancing, which ensures that the portfolio remains aligned with the original risk profile and financial objectives over time. Market movements can alter the weightage of asset classes within a portfolio. For instance, if equity markets perform exceedingly well each year, the equity portion may exceed the targeted allocation, thereby exposing the investor to unintended risk.

Rebalancing involves adjusting the portfolio by transferring funds from overperforming to underperforming asset classes to restore the original allocation mix. This strategy enables:

- **Systematic profit-booking** in high-performing assets (e.g., selling appreciated equity to reduce exposure).

- **Cost-effective accumulation** in underperforming or undervalued assets (e.g., purchasing equity when prices are low).
- **Stabilization of risk**, as diversification ensures that the impact of volatility in one asset class may be offset by stability in another.

For example, consider a female academic who allocates 50% of her portfolio to equities and 50% to debt. After one year, if equities rise by 50% and debt by 5%, the portfolio becomes equity-heavy. Rebalancing would involve selling a portion of equities and reinvesting the proceeds in debt instruments, thereby restoring equilibrium, and reducing exposure to future market correction risks.

3.6.3 Relevance for Female Academics

Asset allocation and investment strategy are particularly significant for female academics in Kolkata due to the unique interplay of risk aversion, goal orientation, digital competence, and psychological biases observed in this cohort. A thoughtfully constructed and well-maintained asset allocation framework can:

- Simplify decision-making,
- Mitigate behavioural biases (e.g., overreaction or inertia),
- Enhance financial confidence and independence,
- And align investments with both personal and professional aspirations.

Therefore, the strategy adopted by women investors must be informed not just by market data, but also by a nuanced understanding of their life stages, responsibilities, and access to financial resources.

3.7 Investment Risk and Its Classifications

3.7.1 Conceptualizing Risk in Investment Behaviour

In the context of personal finance, risk is fundamentally understood as the potential deviation of actual outcomes from expected financial returns. This deviation may be positive or negative, but it introduces uncertainty in achieving defined financial goals. From a behavioural finance standpoint, risk is not only a mathematical abstraction but also a psychological perception—investors interpret and respond to risk based on individual experience, emotional resilience, and cognitive biases.

For many female investors, including academics, risk perception is deeply influenced by life stage, economic responsibilities, and socio-cultural factors. While some may equate risk with opportunity, others may view it as a deterrent to financial participation. Hence, understanding the types and sources of risk is critical to deciphering investment behaviour patterns.

In most financial literature, the terms risk and uncertainty are used interchangeably; however, they diverge slightly in interpretation. Risk involves known probabilities of outcomes, while

uncertainty involves unknown or immeasurable probabilities. Regardless, both concepts imply unpredictability in financial decision-making.

3.7.2 Systematic and Unsystematic Risk

Investment risk is broadly categorized into systematic risk and unsystematic risk, which together constitute total portfolio risk:

- **Systematic Risk (Non-Diversifiable Risk):** This category includes market-wide influences that affect all investments to some degree, regardless of the asset class or industry. These risks are external and cannot be mitigated through diversification. Examples include macroeconomic shifts, interest rate volatility, geopolitical tensions, natural disasters, or changes in government policies. For instance, a sudden hike in taxation or economic instability due to war would impact all investors, including female academics, regardless of their individual portfolio choices.
- **Unsystematic Risk (Diversifiable Risk):** These are specific to a company, sector, or instrument and can be mitigated through diversification across assets and industries. Unsystematic risk encompasses internal factors such as management failure, fraud, industry downturns, or operational disruptions. For example, the collapse of a company due to a corporate scandal would only affect those invested in that specific firm. Effective portfolio diversification reduces this risk to negligible levels in theory.

In quantitative terms, total risk is measured by *standard deviation*, and systematic risk is often gauged using the metric *Beta*. These measures help financial advisors assess the volatility and sensitivity of a portfolio in relation to market movements.

3.7.3 Sources and Types of Financial Risk

A nuanced understanding of various risk sources equips investors to make more informed and resilient financial decisions. The following are key risk types relevant to individual investors:

- **Interest Rate Risk:** Changes in prevailing interest rates can significantly impact fixed income investments. When interest rates rise, the value of existing bonds falls, leading to capital loss. Conversely, declining interest rates boost bond values but reduce reinvestment opportunities.
- **Reinvestment Risk:** This pertains to the possibility that returns (interest or principal) received from an investment cannot be reinvested at the same rate as the original investment. This is particularly relevant in falling interest rate environments.
- **Default Risk:** Also known as credit risk, this is the possibility that an issuer (e.g., a company or government) may fail to fulfil its financial obligations—such as interest or principal payments—thereby exposing the investor to loss.
- **Liquidity Risk:** Liquidity risk refers to the inability to sell an investment promptly without incurring a significant loss in value. Female investors with low tolerance for delays or market fluctuations may avoid illiquid instruments like real estate or certain debt securities.

- **Inflation Risk (Purchasing Power Risk):** This arises when the rate of inflation erodes the real value of returns. Over time, investments that do not outperform inflation (e.g., savings accounts or fixed deposits) reduce purchasing power.
- **Exchange Rate Risk:** Investors who hold foreign currency-denominated assets face the risk of losses due to adverse currency fluctuations. While less common among domestic investors, global diversification may expose one to this form of risk.
- **Regulatory Risk:** Changes in government regulations, tax laws, or compliance requirements can directly affect investment returns. For example, introduction of capital gains tax or transaction tax may alter expected net returns.
- **Investment Manager (Alpha) Risk:** This relates to the performance of a fund or portfolio manager relative to a benchmark. A manager's misjudgement in asset selection or timing can lead to underperformance, known as negative alpha.

Each of these risks plays a role in shaping the investment behaviour of female academics. The awareness, perception, and tolerance of these risks are influenced by a mix of financial literacy, digital competencies, personality traits, and past investment experiences. Hence, an effective investment strategy must account not just for expected returns but also for the multifaceted risks embedded in financial markets.

3.8 Risk Management and Foundational Investment Concepts

3.8.1 Managing Investment Risk: Strategies and Approaches

Investment risk is an inescapable aspect of financial decision-making. While systematic risk—which arises from macroeconomic, political, or regulatory forces—cannot be eliminated, unsystematic risk—which is unique to specific companies, industries, or instruments—can be effectively managed. The distinction between these two categories of risk forms the basis of most risk mitigation strategies.

Two primary approaches are commonly employed to manage and minimize investment risk:

i. Diversification

Diversification is a fundamental investment principle aimed at reducing unsystematic risk by spreading investments across a variety of instruments, asset classes, and geographic locations. It operates on the rationale that not all investments respond similarly to market stimuli; therefore, poor performance in one segment may be offset by gains in another.

Diversification can be implemented in several forms:

- **Horizontal Diversification:** This involves investing in a wide range of securities within the same asset class. For instance, investing in multiple equity mutual funds or individual stocks across different sectors.
- **Vertical Diversification:** This approach entails distributing investments across different asset classes—such as equities, debt instruments, gold, and real estate—thereby reducing dependency on any single market.

- **Geographical Diversification:** Global diversification allows investors to tap into international markets that may behave differently from domestic ones. Incorporating foreign securities can enhance the risk-adjusted return of a portfolio due to low correlation with domestic assets.

ii. Hedging

Hedging refers to the process of offsetting potential losses in one asset by taking a counterbalancing position in another. Often likened to insurance, hedging allows investors to protect their portfolios against adverse market movements without liquidating their core holdings.

Common hedging instruments include:

- **Derivatives** such as **futures**, **options**, and **swaps**.
- **Short-selling strategies** against broader indices during anticipated downturns.

For example, a female investor who anticipates a temporary market correction but holds significant equity positions may short-sell a market index to offset potential portfolio losses. This helps maintain long-term holdings while managing short-term volatility without triggering tax implications from premature liquidation.

3.8.2 Understanding Risk-Return Trade-Off

Risk and return are inherently linked. In financial literature, risk is defined as the variability or volatility of returns from an investment. It is often quantified as the deviation from the mean or expected return. This deviation may be positive (higher returns) or negative (losses), thus encompassing both downside and upside variability.

The risk-return trade-off implies that to achieve higher returns, investors must be willing to accept greater risk. Conversely, seeking safety or guaranteed returns usually involves accepting lower potential gains.

- **Low-Risk, Low-Return Instruments:** Government bonds or fixed deposits offer stable but limited returns. These may be preferred by highly risk-averse individuals.
- **High-Risk, High-Return Instruments:** Equities and commodities have the potential for significant capital appreciation but are subject to greater volatility and market uncertainty.

This trade-off is especially important for female academics, as their risk preferences, investment goals, and time horizons often influence the instruments they select. An understanding of this dynamic allows them to align their investment strategy with personal and professional financial planning.

3.8.3 Ability, Willingness, and Need to Take Risk

The degree of risk an individual should undertake depends on a combination of three factors:

- **Ability to Take Risk:** This is determined by the investor's financial capacity—such as income stability, asset base, and financial obligations. A salaried academic with stable income and minimal liabilities may have a higher ability to take on risk.
- **Willingness to Take Risk:** This is influenced by psychological factors and personality traits. Even financially capable individuals may exhibit low risk tolerance due to past experiences, lack of confidence, or emotional aversion.
- **Need to Take Risk:** This dimension assesses whether the investor's goals necessitate exposure to higher risk. If financial targets can be met through safer investments, there is no compelling need to pursue high-risk instruments. Conversely, limited resources and ambitious goals may require assuming more risk to achieve desired outcomes.

The interplay of these three factors must be evaluated in formulating an effective investment strategy tailored to the profile of the female academic investor.

3.9 Investment Vehicles: Instruments for Financial Deployment

An essential component of investment decision-making involves choosing the appropriate **investment vehicle** that is, the channel through which an individual deploys saved capital to generate future returns. These vehicles vary significantly in terms of risk, return, liquidity, tax implications, and alignment with individual financial goals. For female academics, whose financial decisions are often shaped by their professional lifecycle, household responsibilities, and socio-economic background, an informed understanding of these instruments is pivotal.

Broadly, investment avenues are categorized into:

1. **Financial Assets**
2. **Non-Financial Assets**

Financial Assets

Financial assets are instruments where money is invested in paper or digital form, which may represent claims on real assets or income streams. These assets can be further classified into three major categories:

- **Cash Instruments**
- **Debt Instruments**
- **Equity Instruments**

i) Cash Instruments

Cash instruments are highly liquid and are usually retained to meet emergency needs or to ensure immediate availability of funds. However, due to inflation, prolonged holding of cash instruments erodes purchasing power. For this reason, while essential, cash holdings should be strategically limited.

Common cash instruments include:

- **Cash in Hand:** Readily available currency for urgent, unpredictable requirements.
- **Cash in Bank:** Funds parked in savings or current accounts, offering safety and modest interest with high liquidity.

A prudent rule of thumb is to maintain cash reserves equivalent to 3–6 months of average monthly expenses to address unforeseen events such as medical emergencies, travel, or temporary income disruption. For female investors, especially those balancing personal and professional duties, having a dedicated emergency corpus enhances financial resilience.

ii) Debt Instruments

Debt instruments represent lending arrangements where the investor lends money to an institution or government entity in return for periodic interest and eventual return of principal. These instruments are typically preferred by conservative investors due to their stability, predictable income, and lower risk relative to equities.

Key Debt Instruments:

- **Small Savings Schemes:** Widely used by Indian households, these are government-backed and relatively safe.
 - Public Provident Fund (PPF)
 - National Savings Certificate (NSC)
 - Post Office Monthly Income Scheme (POMIS)
 - Senior Citizen Savings Scheme (SCSS)
 - Post Office Term Deposits and Recurring Deposits
 - Kisan Vikas Patra (KVP)
- **Bank Deposits:**
 - Fixed Deposits (FDs) with assured returns over a defined term.
 - Recurring Deposits (RDs) that promote disciplined savings habits.
- **Marketable Fixed Income Instruments:**
 - **Government Securities (G-Secs):** Long-term debt issued by the central government, offering stable returns and high safety.
 - **Treasury Bills (T-Bills):** Short-term instruments used for temporary funding by the government.
 - **Corporate Bonds:** Issued by private or public corporations; carry higher risk but also offer higher returns compared to sovereign securities.

Debt instruments offer moderate returns, relatively low risk, and varying degrees of liquidity. For female academics, especially those seeking financial safety with periodic income, debt products form a core component of a balanced portfolio.

iii) Mutual Funds

Mutual funds are professionally managed investment vehicles that pool resources from multiple investors to invest in a diversified set of securities. They are ideal for investors with limited time, expertise, or capital to directly manage diversified portfolios.

Advantages of Mutual Funds:

- Professional Management
- Risk Diversification
- Affordability and Convenience
- Liquidity
- Regulatory Oversight
- Low Entry Barriers

Types of Mutual Funds:

- **Open-ended Funds:** Units can be bought or redeemed at NAV (Net Asset Value) on any business day.
- **Closed-ended Funds:** Subscriptions are allowed only during the New Fund Offer (NFO) period; units are traded on stock exchanges to provide liquidity.

Classification by Investment Objective:

- **Equity Funds:** Invest primarily in stocks.
- **Debt Funds:** Invest in fixed income securities.
- **Hybrid Funds:** Combine equity and debt for balanced risk-return.
- **Money Market or Liquid Funds:** Invest in short-term instruments offering liquidity with minimal risk.
- **Exchange Traded Funds (ETFs):** Traded like stocks but hold a diversified basket of underlying assets (e.g., index funds, gold ETFs).

Mutual funds have become increasingly popular among female investors due to their ease of access, transparent reporting, and regulatory safeguards.

iv) Equity Instruments

Equity investments imply ownership in a business. Investing in equities allows investors to participate in a company's profitability through capital gains and dividends. While equities are associated with higher volatility and risk, they also offer potential for substantial long-term returns.

Key Features of Equity Investing:

- Returns arise through Capital Appreciation and Dividends

- High risk due to market, business, and regulatory variables
- Ideal for long-term goals such as retirement planning

Equity Investment Options:

- **Direct Equity Investment:** Requires independent analysis of financial statements, company fundamentals, and macroeconomic trends.
- **Equity-Oriented Mutual Funds:** Allow investors to gain exposure to equity markets under professional management.
- **Portfolio Management Services (PMS):** Tailored investment solutions for high-net-worth individuals.

Key Financial Ratios and Terms:

- **Earnings Per Share (EPS):** Indicator of profitability per share.
- **Dividend Yield (%):** Measures cash returns relative to market price.
- **Price-Earnings (P/E) Ratio:** Reflects market expectations of future earnings.
- **Book Value:** Reflects intrinsic shareholder value per share.

3.10 Investment Styles

- **Value Investing:** Identifies undervalued stocks with strong fundamentals.
- **Growth Investing:** Targets companies with strong earnings momentum and expansion potential.

For female academics with a medium-to-long-term outlook, equity investment—particularly through diversified equity mutual funds—provides an accessible and potentially rewarding route to financial growth.

Non-Financial Assets

Although the study emphasizes on financial investment instruments, it is worth acknowledging **non-financial assets** which are widely preferred by Indian investors, especially women. Non-financial assets refer to tangible, real-world investments such as commodities and real estate. These assets often serve as inflation hedges and can complement traditional portfolios by adding diversification and real asset backing. These include:

A. Commodities

Commodities include agricultural products, metals (e.g., gold, silver), crude oil, and other tangible resources. In India, derivatives on commodities are traded on platforms such as MCX (Multi Commodity Exchange) and NCDEX (National Commodity & Derivatives Exchange).

Among these, gold remains the most preferred asset, particularly among female investors, owing to its cultural significance, inflation-resistance, and liquidity. The most efficient method for investing in gold is via:

- **Gold Exchange Traded Funds (ETFs):** These offer the benefits of gold ownership without storage concerns, at lower cost, and with better liquidity.
- **Gold Mutual Funds:** Managed schemes that invest in gold-related instruments.

B. Real Estate

Real estate remains a dominant non-financial investment avenue in India, valued for its dual benefit of capital appreciation and rental income. For many female investors, property ownership represents both financial security and social status.

Forms of Real Estate Investment:

1. **Residential Property:** Offers rental income and tax benefits on loan repayment. Typically used as a long-term wealth-building tool.
2. **Commercial Property:** Generates higher rental yields but involves higher capital outlay and maintenance.
3. **Industrial Property:** Includes warehouses and manufacturing premises; suitable for specialized investors.
4. **Agricultural Land:** Offers tax-exempt income and exemption from wealth tax; however, legal restrictions apply to ownership and usage.
5. **Semi-Urban Plots:** Provide capital appreciation potential due to urban sprawl and infrastructure development.
6. **Time-Share in Holiday Resorts:** Offers part-ownership rights in vacation properties. Although not a high-yield investment, it provides lifestyle benefits and can be monetized through rentals or resale.

Real estate investments require substantial initial capital and long holding periods. Hence, they are more appropriate for investors with stable income, long-term goals, and capacity for debt servicing.

While non-financial assets play a supporting role, their emotional and cultural appeal often influences investment choices among women, particularly in traditional Indian households.

Financial Assets

Financial assets are intangible assets that derive their value from a contractual claim rather than a physical form. These typically include instruments like stocks, bonds, mutual funds, bank deposits, and insurance policies. Unlike physical assets such as real estate or gold, financial assets are more liquid and can often be easily bought, sold, or traded on financial markets. They play a critical role in personal and institutional wealth management by enabling diversification, generating income through interest or dividends, and facilitating long-term capital growth. The value of financial assets is influenced by market conditions, interest rates, and broader economic factors, making informed investment decisions and risk assessment vital for maximizing returns and securing financial goals.

1. Equities (Stocks): These represent ownership in a company. Shareholders are entitled to a portion of the profits (dividends) and potential capital gains if the company grows in value. Equities are considered high-risk, high-return assets and are ideal for long-term investors seeking capital appreciation.

2. Debt Instruments (Bonds and Debentures): These are fixed-income securities where investors lend money to corporations or governments in return for regular interest payments and the return of principal upon maturity. They are typically less volatile than equities and suited for conservative investors focused on income stability.

3. Mutual Funds and Exchange-Traded Funds (ETFs): These pooled investment vehicles allow investors to access diversified portfolios managed by professionals. Mutual funds can be actively or passively managed, while ETFs are traded on stock exchanges and often track specific indices. They offer a balanced exposure to various asset classes.

4. Bank Deposits (Savings Accounts, Fixed Deposits): These are low-risk instruments offering assured returns, commonly used for capital preservation and liquidity. While they ensure safety, returns are generally lower compared to market-linked instruments.

5. Insurance Products (Endowment Plans, ULIPs): Some insurance instruments serve dual purposes—providing risk coverage and functioning as investment vehicles. ULIPs (Unit Linked Insurance Plans) offer market exposure, while endowment plans combine savings with life cover.

Advanced and Alternative Investment Vehicles

In addition to traditional financial instruments such as equity, debt, and mutual funds, investors have access to a range of advanced and alternative investment options. These include derivatives, non-financial assets such as real estate and commodities, and niche investments like collectibles and private equity. While these instruments may be less common among conservative or first-time investors, increasing financial literacy and market exposure have made them viable options—particularly for individuals with higher risk tolerance or specialized investment goals.

Derivatives as Risk Management Instruments

Derivatives are financial instruments that derive their value from an underlying asset, such as equities, commodities, interest rates, or market indices. Though inherently complex, derivatives serve as important tools for hedging, speculation, and arbitrage. When used judiciously, they can enhance portfolio efficiency and risk-adjusted returns. However, without adequate knowledge, they can also expose investors to substantial losses. Different types of derivatives may include Forwards, Futures, Options (Calls and Puts), Swaps, Warrants, LEAPS (Long-Term Equity Anticipation Securities) etc.

In India, derivative trading was formally introduced with index futures in 2000, followed by stock futures and index/stock options. Today, derivatives form an integral part of the Futures & Options (F&O) segment of stock exchanges such as NSE and BSE.

Options Trading: Options give the holder the *right*, but not the *obligation*, to buy (Call Option) or sell (Put Option) an asset at a predetermined price within a specific timeframe. The buyer pays a premium for this right. While the buyer's loss is limited to the premium, the seller (or writer) assumes an obligation and bears potentially unlimited risk.

Futures Trading: A futures contract obligates the buyer/seller to purchase/sell the underlying asset at a future date for a pre-agreed price. These contracts are margin-based and involve leverage, magnifying both potential gains and losses.

Applications of Derivatives:

- **Hedging:** Used to protect an existing investment from adverse price movements. For example, if an investor anticipates a short-term decline in a stock they own, selling a futures contract can offset potential losses.
- **Arbitrage:** Exploits price differentials across markets. An investor may buy a stock in the cash market and simultaneously sell it in the futures market if the futures price is higher, locking in a risk-free gain.
- **Speculation:** Involves taking directional positions in the market without underlying exposure. While potentially profitable, this carries high risk and is suitable only for experienced investors.

Although derivatives are more commonly employed by institutional investors, increasing awareness and the emergence of user-friendly platforms have led to gradual interest among knowledgeable retail investors, including financially empowered women.

Other Alternative Investments

A. Art, Collectibles, and Precious Stones

Investments in artworks, collectibles, and gemstones are typically illiquid, niche, and speculative. These assets often require deep domain knowledge, market insight, and long holding periods. Returns are uncertain, and resale opportunities are limited.

For most investors—including female academics—such options are best approached with caution and only after core financial goals have been addressed through more conventional assets.

B. Private Equity

Private equity refers to investments made in companies that are not publicly listed. These are generally long-term, illiquid commitments made by institutions or high-net-worth individuals. Returns are realized when the company:

- Goes public,
- Is acquired by another firm,
- Or is recapitalized.

This asset class offers potentially high returns but also involves substantial risk, lack of transparency, and exit constraints.

Venture Capital

A subcategory of private equity, venture capital involves funding early-stage or start-up businesses with high growth potential. Investors gain equity stakes in return, assuming considerable risk in anticipation of exponential returns. Exit occurs typically through Initial Public Offering (IPO) or acquisition.

These investments require a strong understanding of business fundamentals, competitive landscape, and industry dynamics, making them suitable for highly informed investors with high risk tolerance.

Suitability of Investment Vehicles

Before recommending or selecting any investment instrument, it is imperative to consider:

- **Financial goals** (short-term vs. long-term),
- **Risk profile** (conservative, balanced, aggressive),
- **Liquidity requirements**,
- **Tax implications**,
- **Return expectations**, and
- **Investor's level of financial and digital literacy**.

For female academics in urban India, especially in Kolkata, investment decisions are increasingly influenced by educational awareness, digital access, career stage, and household dynamics. The optimal portfolio composition would blend safety (debt instruments, fixed deposits), growth (equities, mutual funds), and diversification (real estate, gold ETFs, possibly derivatives or global exposure)—all tailored to personal objectives and constraints.

3.11 Decoding Investment Behaviour

Investment behaviour refers to the decision-making patterns and psychological tendencies of individuals or institutions when allocating financial resources across various investment avenues. It encompasses not only the *what* and *how* of investment choices but also the *why*—the underlying motivations, biases, and contextual influences that shape financial actions.

Historical Evolution

The study of investment behaviour has evolved significantly over the past century. In the early 20th century, classical economic theories such as the Efficient Market Hypothesis (Fama, 1970) and Modern Portfolio Theory (Markowitz, 1952) dominated the discourse. These models assumed that investors are rational agents who seek to maximize utility based on available information and risk-return trade-offs.

However, empirical anomalies—such as market bubbles, excessive trading, and irrational exuberance challenged these assumptions. This led to the emergence of behavioural finance in the late 20th century, pioneered by scholars like (Kahneman & Tversky, 1979) whose Prospect Theory demonstrated that investors often make decisions based on perceived gains and losses rather than final outcomes. Their work introduced concepts like loss aversion, mental accounting, and framing effects, which revolutionized the understanding of financial decision-making.

Over time, behavioural finance has expanded to include a wide range of psychological and sociological factors, including personality traits, emotional states, social influence, and cognitive biases. This interdisciplinary approach has made investment behaviour a central theme in both academic research and practical financial planning.

2. Theoretical Significance

Investment behaviour is significant for several reasons:

- **Bridging Theory and Practice:** It connects theoretical finance with real-world investor actions, explaining why markets often deviate from predicted models.
- **Policy and Regulation:** Understanding investor behaviour helps regulators design better financial literacy programs, investor protection laws, and market interventions.
- **Portfolio Management:** Financial advisors and institutions use behavioural insights to tailor investment strategies that align with clients' psychological profiles and life goals.
- **Market Dynamics:** Collective behavioural patterns—such as herd behaviour or panic selling—can influence market volatility, asset bubbles, and crashes.

According to (Che Hassan, Abdul-Rahman, Mohd Amin, & HamidS.N, 2023), investment behaviour is shaped by six core dimensions: personal factors, social influences, market information, firm-specific characteristics, product-related features, and demographic variables. These dimensions interact dynamically, making investment behaviour a complex and context-sensitive phenomenon.

3. Measurement of Investment Behaviour

Investment behaviour is typically measured using a combination of **quantitative surveys**, **psychometric scales**, and **behavioural experiments**. Common constructs include:

- **Risk Tolerance and Risk Capacity:** Assessed through scenario-based questionnaires or financial simulations.
- **Investment Attitude and Preferences:** Measured using Likert-scale items that capture preferences for asset classes, time horizons, and return expectations.
- **Behavioural Biases:** Instruments like the Overconfidence Scale, Herding Index, and Anchoring Bias Inventory are used to quantify cognitive distortions.

- **Demographic and Psychographic Profiling:** Age, income, education, personality traits (e.g., Big Five), and financial literacy levels are often included as moderating variables.

Recent studies also employ **structural equation modelling (SEM)** and **regression analysis** to examine the relationships between behavioural constructs and investment outcomes (Rajasekar, A.R, & Elangovan, 2023), (Lathief, Kumaravel, Velnadar, Vijayan, & Parayitam, 2024). These methods allow researchers to test complex models that incorporate mediators and moderators such as risk capacity and investment priority. The three core components of Investment Behaviour include Risk Capacity, Investment Strategy, and Investment Priority.

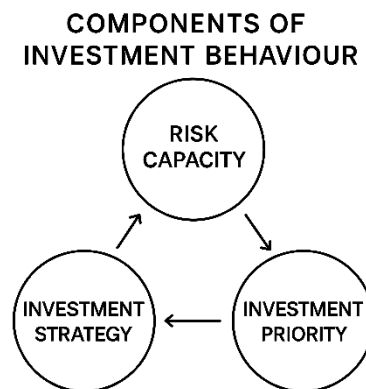


Figure 4 Components of Investment Behaviour [Source: Researcher's conceptualization]

1. Risk Capacity Risk capacity refers to an investor's actual ability to absorb financial losses without compromising their overall financial well-being. It is influenced by factors like income stability, asset base, liabilities, investment time horizon, and future financial obligations. For instance, a young professional with no dependents and a steady job generally has a higher risk capacity than someone nearing retirement or funding a child's education. Unlike risk tolerance, which is psychological, risk capacity is objective and quantifiable. Understanding your real capacity for risk helps avoid taking on investments that might jeopardize your financial goals in the event of market downturns.

2. Investment Strategy This component focuses on how an investor structures and manages their portfolio to meet specific goals. Strategies can vary widely—from conservative approaches that prioritize capital preservation to aggressive tactics that chase high growth through equities or alternative assets. A well-thought-out investment strategy considers one's financial goals, risk appetite, market conditions, and available resources. It also includes decisions about asset allocation, diversification, rebalancing frequency, and investment style (active vs passive). The right strategy aligns with both short-term needs and long-term aspirations, acting as a blueprint to guide consistent and purposeful investing.

3. Investment Priority Investment priority reflects what matters most to the investor and shapes how decisions are made. It could be capital growth, steady income, retirement planning, wealth transfer, or even social and environmental impact. These priorities can shift over time—what is vital in your 30s might look completely different in your 50s. Clarity about one's

priorities helps set meaningful benchmarks and avoid impulsive decisions driven by market noise or trends. It also ensures that your investment behaviour stays aligned with what you genuinely value, making the journey not just profitable but purposeful.

B) Socio-Economic Factors and Their Influence on Investment Behaviour

Investment behaviour does not occur in a vacuum. It is a socio-psychological process that reflects the broader structural, economic, and cultural circumstances surrounding the investor. Among these, socio-economic factors are foundational—they frame the opportunities, constraints, motivations, and capacities of individuals to engage with financial markets. For female academics, who operate at the intersection of educational empowerment and gendered financial dynamics, socio-economic variables play a particularly pivotal role in shaping both access to and engagement with investment opportunities.

This section explores the key socio-economic constructs influencing investment behaviour, grounded in theories of economic agency, social capital, cultural capital, and gendered financial participation.

Theoretical Basis: Linking Socio-Economic Context to Investment Behaviour

The socio-economic determinants of financial behaviour have their roots in human capital theory (Becker, 1964) structural inequality theory (Bourdieu, 1986) and behavioural life-cycle theory (Shefrin & Thaler, 1988). These perspectives collectively argue that:

- Individuals' access to financial resources,
- Their propensity to save or invest,
- And their ability to navigate complex financial decisions

are all mediated by education, income, occupation, family structure, age, marital status, and cultural norms. In the Indian context, especially among women, these factors are further influenced by patriarchal roles, risk aversion, and limited intergenerational exposure to financial planning.

Key Socio-Economic Determinants of Investment Behaviour

a) Income Level

Income is a primary enabler of investment activity. It directly influences:

- The availability of surplus funds after consumption,
- The range and nature of financial instruments accessible to the individual,
- The tolerance for risk and return volatility.

For female academics, income is shaped by institutional designation (e.g., Assistant Professor vs. Professor), pay scale, years of experience, and access to consultancy or administrative roles. Higher income levels typically increase the likelihood of participation in equity markets or real

estate, while lower income brackets may restrict investment to safe, liquid instruments like fixed deposits or recurring deposits.

b) Educational Attainment and Financial Awareness

Although your target population is academically qualified, their disciplinary background (e.g., Humanities vs. Finance) may significantly influence investment literacy and confidence. Education plays a dual role—it enhances cognitive capacity to understand risk-return trade-offs and fosters long-term orientation, which is essential for sustained wealth accumulation.

In line with human capital theory, individuals with higher education are more likely to:

- Comprehend complex financial products,
- Critically evaluate financial information,
- Resist impulsive investment decisions driven by bias or social influence.

c) Employment Stability and Job Security

Stable employment characteristic of many in academia—affords a regular income stream and reduces financial uncertainty, making systematic investment plans (SIPs), mutual fund investments, or real estate planning more feasible. Tenured academic positions also increase confidence in taking long-term financial commitments such as housing loans or retirement-oriented instruments like PPF or NPS.

d) Age and Life Stage

Age is a critical determinant in financial behaviour due to its effect on risk appetite, investment horizon, and financial goals. Younger female academics may focus on capital appreciation, while older cohorts may prioritize capital preservation and steady income.

Investment preferences vary as follows:

- **Early career:** Risk-taking capacity is high; equity-oriented or growth-focused investments are preferred.
- **Mid-career:** Goals shift towards asset building and family security; balanced portfolios become more relevant.
- **Pre-retirement:** Emphasis moves to income stability and capital protection; debt and pension-linked instruments gain preference.

This life-cycle view is supported by the behavioural life-cycle hypothesis, which posits that saving and investment behaviour are not uniform across time, but evolve with personal milestones and perceived financial security.

e) Marital Status and Family Responsibilities

Marital status influences both investment priorities and available capital. Married women may have shared financial responsibilities or may rely on spousal financial decisions. In dual-income households, there may be more flexibility in pursuing higher-risk investments.

Conversely, single, or widowed female academics may prioritize safety and self-reliance in their portfolios.

Family structure also matters. Academics with dependents (children or aging parents) often exhibit more conservative investment patterns and a stronger inclination towards insurance and contingency funds.

f) Urban vs. Semi-Urban Background

The spatial context—whether an individual resides in a metropolitan, urban, or semi-urban area—shapes their exposure to financial institutions, advisory networks, and digital financial tools. Urban female academics in Kolkata are more likely to access:

- Online investment platforms,
- Diverse financial instruments,
- And formal financial literacy programs.

Semi-urban or first-generation professionals may demonstrate cautious financial behaviour and a reliance on traditional saving modes (e.g., chit funds, gold savings, recurring deposits)

g) Financial Independence and Decision-Making Autonomy

The degree to which a female academic is financially independent and participates in household-level financial decisions significantly impacts her investment behaviour. Women who actively manage their own finances are more likely to:

- Exhibit diversified investment portfolios,
- Participate in equity and mutual fund markets,
- And seek professional advice or use fintech platforms.

This autonomy is often linked with personal confidence, education, and social environment and is a key indicator of financial agency.

The Interplay with Other Variables in the Theoretical Framework

Socio-economic factors do not operate in isolation. They influence and are influenced by:

- **Financial Literacy:** Higher education often increases financial awareness, but not uniformly across disciplines.
- **Personality Traits:** Conscientious individuals from modest economic backgrounds may still invest strategically due to cautious planning.
- **Cognitive Biases:** Lower socio-economic exposure may increase reliance on heuristics like familiarity or anchoring.
- **Digital Skills:** Urban, higher-income individuals are more digitally fluent, enabling access to complex investment platforms.

C) Cognitive Biases and their theoretical relevance to Investment Behaviour

A Brief History of Cognitive Biases in Decision Theory

The concept of cognitive biases emerged from the intersection of cognitive psychology and behavioural economics, as a reaction to the limitations of classical rational choice theory. Traditional finance models such as the Efficient Market Hypothesis assumed that investors process information logically and make optimal decisions to maximize utility. However, real-world observations contradicted these assumptions, revealing systematic deviations from rationality.

The foundational work of Daniel Kahneman and Amos Tversky in the 1970s marked a paradigm shift in our understanding of judgment and decision-making. Their Prospect Theory (1979) and subsequent research identified a series of predictable cognitive errors that affect how individuals perceive probabilities, risks, and outcomes. These cognitive biases are mental shortcuts or heuristics that simplify complex decisions but often lead to irrational or suboptimal financial behaviour.

Today, cognitive biases are central to the field of behavioural finance and are recognized as key psychological determinants of investment choices, risk assessment, and portfolio diversification.

Significance of Cognitive Biases in Investment Behaviour

The significance of cognitive biases lies in their pervasive influence on how individuals interpret financial information, evaluate risk, and act under uncertainty. For investors, especially retail or non-professional investors, cognitive biases can result in:

- Inadequate diversification
- Market timing errors
- Loss aversion and herding
- Excessive trading or under-investment
- Emotional decision-making and regret aversion

Female investors—including highly educated professionals such as female academics in Kolkata—are not immune to these psychological distortions. Despite their formal education and analytical capabilities, factors such as time constraints, caregiving responsibilities, gender-based financial socialization, and limited exposure to financial training may amplify susceptibility to biases like familiarity, overconfidence, and decision paralysis.

Understanding these biases is essential to diagnose irrational financial patterns, design better financial education programs, and develop personalized advisory mechanisms that respect the investor's psychological profile.

Key Cognitive Biases Covered in the Study

- **Anchoring Bias** refers to the tendency of investors to rely too heavily on an initial piece of information (the "anchor") when making subsequent judgments. For example, if an investor first sees a stock priced at ₹500, any future evaluation of that stock is likely to be influenced by this anchor, regardless of its intrinsic value. In the context of female academics, prior experiences with investment returns or anecdotal references from peers may serve as anchors, thus skewing present-day evaluations.

Significance: Anchoring can cause female investors to hold onto underperforming assets due to misplaced attachment to original investment values. Tversky & Kahneman (1974) identified anchoring as one of the most powerful heuristics in decision-making.

- **Overconfidence Bias** manifests as an inflated belief in one's ability to predict market trends or assess investment quality. This bias often leads to under-diversification, frequent trading, or reliance on self-assessed expertise rather than professional advice. Among highly educated women in academia, this may emerge as a form of intellectual overreach—where analytical confidence in their subject domain is inadvertently transferred to financial contexts without corresponding experience or information.

Significance: Particularly relevant among academically trained individuals, who may overextend domain confidence to financial settings. Barber & Odean (2001) found overconfidence to be especially high among individual investors, leading to excessive trading.

- **Familiarity Bias** causes investors to favour known or local financial products over unfamiliar ones, regardless of comparative performance or risk. This bias leads to **home bias** in portfolio construction, such as overinvestment in national banks, government schemes, or even employer-sponsored instruments. Female academics may feel safer investing in traditional savings mechanisms like post office deposits or PPF due to cultural familiarity and low perceived volatility.

Significance: Limits portfolio diversification and potential returns; highly prevalent among Indian women investors due to cultural comfort zones. (Huberman, 2001) demonstrated that investors disproportionately allocate capital to local or known companies.

- **Decision Paralysis**, also referred to as information overload, arises when excessive financial options or data overwhelm the decision-making process. The increasing digitization of investment platforms, the abundance of market data, and a constant flow of online advice can contribute to inaction, particularly among investors who are already time-constrained. This is especially relevant for academic professionals managing multiple responsibilities, leading to delays or complete avoidance of investment decisions.

Significance: Highly relevant in digital environments where the availability of financial information far exceeds the processing capacity of average users. (Schwartz, 2004) noted that too many choices can undermine decision quality and satisfaction.

- **Self-Serving Bias** refers to the tendency to attribute positive investment outcomes to one's own skill, while blaming external factors for failures. This can hinder learning and reduce openness to corrective feedback or expert consultation. For example, a successful stock pick may reinforce a false sense of expertise, while losses are dismissed as market anomalies.

Significance: Reinforces overconfidence and impairs learning from past investment errors. (Miller & Ross, 1975) introduced this bias in attribution theory; it has been widely replicated in financial contexts.

- **Cognitive Dissonance** occurs when an investor is confronted with conflicting attitudes or information that contradicts their existing beliefs. In response, they may rationalize poor decisions, avoid discomforting data, or continue investing in failing instruments to maintain psychological consistency. Female academics, known for intellectual rigor, may nonetheless struggle with admitting financial misjudgement due to professional identity or perceived loss of credibility.

Significance: Can delay course correction and increase exposure to loss. (Festinger, 1957) introduced the theory, and (Statman, 1995) applied it to behavioural finance.

- **Confirmation Bias** drives individuals to seek, interpret, and remember information that aligns with their preexisting beliefs. In investment contexts, this leads to selective attention—investors may follow financial news or analyst reports that support their initial views while discounting contrary evidence. This can reinforce flawed strategies and result in underperformance over time.

Significance: Leads to myopic investment decisions and resistance to diversified viewpoints. (Nickerson, 1988) provided a comprehensive review of confirmation bias in reasoning and belief formation.

Cognitive Biases in Context: Female Academics in Kolkata

In the specific context of female academics in Kolkata, cognitive biases must be understood not just as internal errors in judgment but also as products of broader structural and experiential limitations. Despite high educational qualifications, these individuals may lack formal training in finance, have limited social exposure to market investments, and may rely on informal advice or gendered norms. For example:

- Anchoring may emerge from intergenerational financial practices.
- Familiarity bias may reflect historically trusted instruments in female-led households.

- Decision paralysis may result from juggling career, family, and administrative roles without time for financial research.

Cognitive biases form a psychological layer within the theoretical framework of investment behaviour. They influence not only *what* investment decisions are made but *how* they are made, and whether they are made at all. For female academics, biases may be exacerbated by contextual factors such as socio-economic background, digital confidence, and personality traits. Understanding, measuring, and addressing these biases is essential for creating inclusive, supportive, and effective investment ecosystems.

D) Personality Traits and Their Role in Investment Behaviour

Personality traits are stable psychological tendencies that influence an individual's behaviour across situations and over time. In the context of investment decision-making, personality represents a foundational psychological layer shaping how individuals perceive financial risk, respond to uncertainty, plan, and react to market fluctuations. The present study adopts the Five-Factor Model (FFM) commonly referred to as the Big Five—as the theoretical foundation for assessing personality traits among female academics in Kolkata and their influence on investment behaviour.

Historical Foundations of the Big Five Personality Model

The Lexical Hypothesis proposed by (Allport & Odbert, 1936) suggested that the most socially relevant and universally recognized traits in human behaviour are encoded into language. Based on this principle, Allport and Odbert compiled an extensive list of over 18,000 personality-descriptive words, which was later refined to approximately 4,500 adjectives denoting observable and relatively permanent traits.

(Cattell, 1946) applied early computing technology and factor analysis to reduce this list into 16 underlying personality dimensions, eventually leading to the development of the 16PF Questionnaire. Though groundbreaking, Cattell's model was later found to retain too many overlapping dimensions.

A pivotal shift was introduced by (Norman, 1963) and subsequently (Costa, T, & McCrae, 1985) which consolidated prior research to propose five core dimensions sufficient to describe the structure of personality. Despite initial resistance from social psychologists in the 1970s who argued behaviour was too context-dependent to be predicted by stable traits the Big Five framework gained empirical validation across cultures and disciplines by the late 1980s and remains the dominant model in personality research today.

The Big Five Personality Traits

The Five-Factor Model describes personality across five broad dimensions:

1. Extraversion

Extraversion is characterized by a strong inclination toward engaging with the external world. Individuals high in extraversion thrive in social settings, exude energy, and frequently experience positive emotions. They are often enthusiastic, proactive, and quick to embrace

opportunities for excitement. In group environments, extraverts tend to be vocal, assertive, and comfortable drawing attention to themselves.

In contrast, introverts exhibit lower levels of exuberance, energy, and social activity. They are typically reserved, deliberate, and less inclined toward social interaction. This preference for solitude should not be mistaken for shyness or melancholy; introverts simply require less external stimulation and often find solace in alone time.

To summarize, extraversion encompasses traits such as sociability, assertiveness, dominance, talkativeness, and gregariousness. It reflects an individual's ease in connecting with others and expressing themselves freely, even among strangers. Extraverts derive comfort from social presence, whereas introverts often prefer solitude.

2. Agreeableness

Agreeableness pertains to individual differences in the prioritization of cooperation and social harmony. Those high in agreeableness place significant value on maintaining positive relationships with others. They are typically considerate, friendly, generous, and willing to compromise, often prioritizing others' needs over their own. Agreeable individuals also tend to hold an optimistic view of human nature, believing others to be inherently honest and trustworthy.

On the other hand, disagreeable individuals prioritize self-interest over social harmony. They are generally indifferent to others' well-being and less likely to extend themselves for the benefit of others. Their scepticism about others' motives can lead to behaviours that are suspicious, unfriendly, or uncooperative.

Agreeableness is advantageous for fostering popularity and likability, as agreeable individuals are generally more well-received. However, this trait may be less beneficial in scenarios requiring tough, objective decisions. Disagreeable individuals, for instance, may excel in roles demanding critical analysis or assertiveness, such as scientists, critics, or military personnel.

In essence, agreeableness is linked to traits like courtesy, flexibility, trust, cooperativeness, forgiveness, and tolerance. It reflects an individual's ability to navigate social complexities and conform appropriately to interpersonal dynamics.

3. Conscientiousness

Conscientiousness involves the regulation and control of impulses. While impulses are not inherently negative—spontaneous decisions can sometimes be effective, and impulsivity can add excitement to leisure activities—conscientious individuals excel in self-discipline and long-term planning.

This trait also encompasses the "Need for Achievement" (NAch), driving individuals to pursue goals with determination and persistence. Highly conscientious people are often successful, avoiding trouble through meticulous planning and reliability. They are frequently perceived as intelligent and dependable. However, excessive conscientiousness can manifest as perfectionism or workaholism, potentially leading to rigidity or a lack of spontaneity.

Conversely, those low in conscientiousness may be criticized for unreliability or a lack of ambition, but they often enjoy a more carefree lifestyle, embracing short-term pleasures without the constraints of rigid structure.

In summary, conscientiousness is associated with traits such as carefulness, thoroughness, responsibility, organization, achievement orientation, and perseverance. Conscientious individuals thrive in structured environments that emphasize precision and timely task completion.

4. Emotional Stability (vs. Neuroticism)

Individuals scoring high in emotional stability are less prone to emotional distress and exhibit lower reactivity to negative stimuli. They remain calm, composed, and free from persistent negative emotions. It is important to note that emotional stability does not necessarily correlate with frequent positive emotions, as the latter is more closely tied to extraversion.

At the opposite end of the spectrum, neuroticism (or emotional instability) describes a tendency to experience negative emotions such as anxiety, anger, or depression. Those high in neuroticism are emotionally reactive, often overreacting to situations that others might find trivial. They may perceive ordinary circumstances as threatening and minor setbacks as insurmountable. Their emotional responses are not only intense but also prolonged, frequently resulting in prolonged bad moods.

This difficulty in emotional regulation can impair decision-making, clarity of thought, and stress management.

In other words, emotional stability versus neuroticism revolves around an individual's ability to manage discomfort or extreme stress. Neuroticism is marked by traits like anxiety, insecurity, depression, worry, and anger, while emotional stability reflects control over these extremes.

5. Openness to Experience

Openness to experience distinguishes individuals who are imaginative and creative from those who are pragmatic and conventional. Open individuals are intellectually curious, artistically inclined, and sensitive to beauty. They are more in tune with their emotions and tend to think and act in unconventional ways.

Conversely, those low in openness prefer simplicity and familiarity over complexity and novelty. They often have narrow, conventional interests and may view artistic or intellectual pursuits as impractical or obscure. Closed individuals favour stability and tradition, resisting change and innovation.

While openness is often associated with intellectual and creative professions, closed thinking can be advantageous in roles requiring routine or strict adherence to protocols, such as law enforcement, sales, or service-oriented jobs.

To summarize, openness to experience (also referred to as intellect) is linked to traits like curiosity, intelligence, originality, imaginativeness, and artistic sensitivity. Highly open individuals are characterized by their broad-mindedness and receptivity to new ideas.

Significance of Personality Traits in Investment Behaviour

The Five-Factor Model has been validated across cultures, languages, and age groups (McCrae & Costa, 1987), and is recognized for its predictive utility in economic and financial behaviour. While cognitive ability explains "what" a person can do, personality explains "how" and "why" people behave the way they do—including how they manage risk, plan, and engage with investment platforms.

Notably:

- **Conscientiousness** is positively associated with long-term planning, portfolio diversification, and goal-based investing.
- **Neuroticism** (emotional instability) is linked to erratic trading and higher financial regret.
- **Openness** fosters fintech adoption and engagement with new investment products.
- **Agreeableness** may correlate with ethical investing or reliance on trusted advisors.
- **Extraversion** may lead to frequent interaction with financial communities or peer-influenced decisions.

Measurement of the Big Five Traits

Various personality assessment tools have been developed to measure the Big Five personality traits. Below, we discuss four key methods, including the **Ten-Item Personality Inventory (TIPI)**, which has been utilized in this study.

a) Assessing the Big Five with Trait Descriptive Adjectives (TDA)

(Goldberg, The development of markers for the Big-Five factor structure. , 1992) developed multiple adjective-based instruments to assess the Big Five traits. One such tool is a 50-item measure using a "transparent format," where each factor is represented by 10 bipolar adjective scales (e.g., *quiet-talkative*). While primarily used for instructional purposes (Pervin & John, 1997), this format clearly communicates the constructs being measured to participants.

A more widely used version is Goldberg's 100-item unipolar Trait Descriptive Adjectives (TDA) list, refined through factor analysis to ensure each adjective uniquely defines one of the Big Five dimensions. These scales demonstrate high internal consistency and a replicable factor structure.

b) NEO PI-R Personality Inventory

(Costa, Jr, & McCrae, 1992) introduced the 240-item NEO Personality Inventory-Revised (NEO PI-R), which measures each Big Five trait through six specific facets. Developed using

factor analysis and multi-method validation, this inventory has strong reliability, temporal stability, and validity, as confirmed by peer and spouse ratings (McCrae & Costa, 1990).

For shorter assessments, (Costa, Jr, & McCrae, 1992) also created the 60-item NEO Five-Factor Inventory (NEO-FFI), derived from an item factor analysis of the original NEO PI (Costa & McCrae, 1985). While the NEO-FFI maintains reasonable reliability (mean $\alpha = .78$), its scales do not equally represent all facets of each trait. For example, the Agreeableness scale includes multiple items from Altruism and Compliance but none from Modesty.

c) Big Five Inventory (BFI)

John, Donahue, and Kentle (1991) developed the 44-item BFI to provide a brief yet comprehensive measure of the Big Five. Unlike Goldberg's single-adjective approach, the BFI uses short phrases based on prototypical trait adjectives (John, 1990). This format enhances response consistency by providing contextual clarity (Goldberg & Kilkowski, The prediction of semantic consistency in self-descriptions: Characteristics of persons and terms that affect the consistency of responses to synonym and antonym pairs. , 1985).

The BFI is particularly useful in research settings where time constraints or participant fatigue are concerns (Burisch, 1984). Its balance between brevity and depth makes it a popular choice for studies requiring efficient personality assessment.

d) Ten-Item Personality Inventory (TIPI)

The TIPI (Gosling, Rentfrow, & Swann, 2003) is an ultra-short measure of the Big Five, consisting of just 10 items (two per trait). Despite its brevity, the TIPI demonstrates acceptable reliability and validity for large-scale studies where quick assessment is essential. Each item pairs two trait descriptors (e.g., *extraverted*, *enthusiastic*), allowing respondents to rate their self-perception on a Likert scale.

While the TIPI sacrifices some depth compared to longer inventories like the NEO PI-R or BFI, its practicality makes it ideal for surveys with limited time or space. It has been widely used in social psychology, organizational research, and cross-cultural studies.

Comparison of TDA, NEO-FFI, BFI, and TIPI

- NEO questionnaires (PI-R & FFI) offer the most detailed and validated measurements, ideal for clinical or in-depth research.
- Goldberg's TDA is the most widely used adjective-based measure, particularly in lexical studies.
- The BFI strikes a balance between brevity and comprehensiveness, making it suitable for general research.
- The TIPI is the shortest and most efficient, best suited for large-scale or time-sensitive studies where approximate trait measurement suffices.

Each tool has distinct strengths, and the choice depends on the study's goals, depth of analysis required, and practical constraints. The TIPI's inclusion in this research ensures efficient data collection while maintaining alignment with established Big Five frameworks.

Application and Justification of TIPI in the Present Study

Given the scope and nature of the current research examining multiple psychological, behavioural, and socio-economic variables among female academics in Kolkata—the TIPI model was adopted as the most suitable tool for personality assessment. Its advantages include:

- **Minimal respondent burden**, which was crucial given the overall length of the questionnaire and the professional time constraints of respondents.
- **Acceptable levels of reliability**, especially when used in combination with other validated scales.
- **Cross-cultural applicability**, with studies supporting its use in diverse samples (Gosling et al., 2003; Romero et al., 2009).

However, TIPI has certain **limitations**:

- **Lower internal consistency** due to having only two items per trait.
- **Limited depth**; it does not capture the six underlying sub-facets per trait (unlike NEO PI-R).
- **Greater susceptibility to measurement error**, especially when used in isolation without corroborating constructs.

Despite these limitations, TIPI is regarded as a theoretically valid and pragmatically effective instrument for studies like the present one, which requires broad personality mapping alongside other behavioural constructs such as financial literacy, cognitive biases, and digital skills.

Personality traits, particularly through the Big Five framework, provide an essential lens through which investment behaviour can be understood and predicted. In the context of female academics, a population marked by intellectual engagement but potentially underexposed to financial planning—personality plays a pivotal role in mediating investment style, risk tolerance, and decision confidence. By employing the TIPI model, the current study captures this dimension in a manner that balances theoretical robustness with practical feasibility, contributing to a more holistic behavioural understanding of investment activity.

E) Decoding Financial Literacy and its interplay with Investment

In contemporary economic environments marked by increased financial complexity, deregulation, and digital transformation, financial literacy has emerged as an indispensable component of personal financial well-being and investment behaviour. Financial literacy equips individuals not only with the technical knowledge of financial concepts but also with the attitudes and behaviours necessary for effective financial decision-making. For female academics, who possess high formal education but may not have commensurate financial

exposure, financial literacy becomes a key determinant of investment awareness, confidence, and autonomy.

The present study operationalizes financial literacy as a three-dimensional construct encompassing financial knowledge, financial attitude, and financial behaviour, consistent with the OECD-INFE (2011; 2018) framework. This multidimensional understanding moves beyond conventional knowledge-based assessments and captures the motivational and behavioural aspects that shape how individuals interact with financial systems.

Historical Evolution and Conceptualization of Financial Literacy

The term “financial literacy” first gained policy traction in the early 2000s, coinciding with the global rise in individual responsibility for retirement planning, insurance, credit decisions, and wealth accumulation. The OECD (2005) defined financial literacy as:

“The combination of financial awareness, knowledge, skills, attitude, and behaviour necessary to make sound financial decisions and ultimately achieve individual financial well-being.”

Earlier, (Huston, 2010) conceptualized financial literacy as comprising both personal finance knowledge and the ability to apply this knowledge in real-life decision contexts. This dual-focus model underscored the limitations of knowledge-only approaches and emphasized the role of confidence, goal orientation, and financial self-efficacy.

In India, the Reserve Bank of India (RBI, 2013) and (SEBI, 2015) have adopted this broader view, integrating financial literacy with national financial inclusion efforts. The National Centre for Financial Education (NCFE) and schemes like Investor Education and Protection Fund (IEPF) were initiated to enhance financial capabilities among underserved segments, including women.

The Three Dimensions of Financial Literacy

In alignment with international best practices (OECD-INFE, 2011; Atkinson & Messy, 2012), this study conceptualizes financial literacy across three mutually reinforcing dimensions:

a) Financial Knowledge

Financial knowledge refers to an individual’s ability to understand and apply basic economic and financial concepts essential for sound decision-making. These concepts include:

- *Time value of money*, which recognizes that money today is more valuable than the same amount in the future due to its earning potential.
- *Interest compounding*, emphasizing how interest on savings or debt accumulates over time on both the principal and prior interest.
- *Inflation and purchasing power*, where individuals must understand how inflation diminishes the real value of money and impacts long-term savings.
- *Risk-return trade-offs*, assessing the balance between potential returns and associated risks.

- *Portfolio diversification*, which mitigates investment risk by allocating funds across various asset classes.
- Familiarity with financial instruments such as mutual funds, SIPs, equities, fixed-income securities, life insurance, and retirement plans.

These elements enable informed choices around budgeting, investing, and retirement planning. Empirical studies indicate that financial knowledge strongly predicts behaviours such as equity participation and long-term planning (Lusardi & Mitchell, Financial literacy and planning: Implications for retirement wellbeing., 2011) (Lusardi & Mitchell, Financial literacy and retirement preparedness: Evidence and implications for financial education., 2007). In the Indian context, research by (Bhushan & Medury, Financial literacy and its determinants., 2013) and (Agarwalla S. , Barua, Jacob, & Varma, 2015) confirms that individuals with higher financial knowledge are more likely to engage with complex financial products and demonstrate prudent portfolio management.

b) Financial Attitude

Financial attitude encompasses an individual's psychological and emotional disposition toward managing money. It influences saving tendencies, planning behaviours, and risk tolerance. Key components include:

- A preference for *delayed gratification* through consistent savings.
- A *balanced risk perception*—neither overly risk-averse nor excessively risk-seeking.
- A forward-thinking, *goal-oriented approach* to financial planning.

The OECD (OECD, OECD-INFE. Measuring financial literacy: Questionnaire and guidance notes for conducting an internationally comparable survey, 2011) suggests using psychometric statements (e.g., “I find it more satisfying to save for the long term than to spend now”) to assess such attitudes. According to (Kempson, Collard, & Moore, 2006), attitude serves as a bridge between knowledge and behaviour, often shaping whether financial skills are put into practice.

Gender-specific trends further enrich this discourse. While women may underperform in formal knowledge assessments (Hung, Parker, & Yoong, 2009), they tend to exhibit more conservative, future-oriented financial attitudes—particularly in cultures where they manage household expenses (Sondhi & Basu, 2020).

c) Financial Behaviour

Financial behaviour refers to the visible and actionable practices individuals employ to manage their finances. These include:

- *Budgeting and expense tracking*, which promotes financial control and reduces impulsive spending.
- *Regular saving*, indicative of discipline and long-term orientation.

- *Timely debt repayment*, which preserves credit health and financial stability.
- *Investment diversification*, helping to optimize returns while minimizing risk.
- *Seeking financial advice* from credible professionals or sources.

Behaviour is considered the most critical and outcome-based aspect of financial literacy, offering a window into actual capability (OECD, OECD/INFE toolkit for measuring financial literacy and financial inclusion., 2008). Despite positive attitudes or knowledge, Indian women often face systemic barriers—such as lack of access to formal financial systems and intra-household decision-making hierarchies—that impede behavioural execution (Swar & Bansal, 2020)

Financial Literacy and Investment Behaviour: Theoretical Significance

The link between financial literacy and investment behaviour is both intuitive and empirically validated. The Behavioural Life-Cycle Hypothesis (Shefrin & Thaler, 1988) suggests that individuals with financial awareness are more likely to overcome self-control problems, plan for future needs, and resist impulsive consumption.

Empirical studies reinforce this theoretical view:

- (Lusardi & Mitchell, 2007) found that financial literacy is the single most important factor explaining retirement planning across multiple countries.
- (Van Rooij, Lusardi & Alessie, 2011) linked financial literacy to participation in equity markets and portfolio diversification.
- (Bhushan & Medury, 2013) noted that Indian investors with financial literacy showed stronger preference for mutual funds and SIPs than gold or fixed deposits.

This relationship is especially relevant in female-dominated professions like academia, where formal education is high but exposure to market-linked financial products may be low.

Financial Literacy Among Female Academics: A Contextual Lens

In the Indian socio-cultural landscape, women—regardless of educational attainment—have historically had limited agency in financial planning. However, with increasing professionalization of women in academia, there exists a segment that is intellectually capable yet financially underutilized.

Among female academics in Kolkata, financial literacy may be shaped by:

- Disciplinary background (Humanities vs. Commerce or Economics)
- Institutional financial practices (e.g., pension schemes, CPF, or salary-linked insurance)
- Family structure (dual-income vs. single-income households)
- Generational norms (first-generation professionals may lack intergenerational financial knowledge)

(Raut & Das, 2022) found that educated women in India often exhibit strong financial attitudes but limited investment knowledge due to socialized dependence on male relatives for financial decisions. The challenge is not awareness but confidence and exposure, making literacy-driven empowerment both necessary and impactful.

Measurement of Financial Literacy in the Present Study

This study adopts a three-component model of financial literacy based on the OECD-INFE Toolkit (2011, 2018), supplemented by Indian adaptations by (Agarwalla S. K., Barua, Jacob, & Varma, 2015) and (Bhushan & Medury, Financial literacy and its determinants. , 2013).

- Financial Knowledge: Assessed through multiple-choice and true/false questions covering inflation, interest, diversification, and risk.
- Financial Attitude: Measured via 5-point Likert scale items indicating long-term orientation, responsibility, and planning comfort.
- Financial Behaviour: Evaluated through self-reported budgeting, savings frequency, investment diversity, and information seeking.

Each domain includes multiple items, which are subjected to Ordinal Principal Component Analysis (OPCA) to create statistically reliable and interpretable composite variables. These scores are later incorporated into logistic regression models to analyse their effect on investment behaviour.

This multidimensional structure avoids the reductionism of single-score indices and recognizes that financial capability is more than knowing—it is knowing, valuing, and doing.

Gendered Financial Literacy: A Special Consideration

Financial literacy is deeply gendered in both acquisition and application. According to the S&P Global Financial Literacy Survey (2016), only 24% of Indian women are considered financially literate. Gender gaps in literacy persist despite growing access to employment and education.

The OECD (2013) emphasizes that women often:

- Display lower financial confidence, even with similar or better knowledge
- Tend to rely on informal networks (family or peer advice)
- Are more likely to prioritize savings and insurance over capital market products

Programs that integrate financial literacy with gender empowerment and professional development have shown strong returns in increasing women's participation in formal financial markets (Bank, 2014).

In the case of female academics, bridging this gendered gap may not require more technical knowledge, but rather reinforcement of confidence, exposure, and autonomy in financial choices.

Financial literacy serves as an instrumental psychological and functional resource that enables female academics to exercise informed control over their finances, plan for long-term goals,

and engage with financial markets. By conceptualizing financial literacy through its three interdependent dimensions—knowledge, attitude, and behaviour—this study aligns with global best practices and captures the nuance required for effective financial decision-making.

Recognizing the unique financial challenges and agency structures faced by educated women in academic professions, this framework provides a critical foundation for understanding the role of financial literacy in investment behaviour. It also sets the stage for evidence-based interventions that promote gender-sensitive financial education and enhance long-term financial security among women in the knowledge economy.

E) Digital Skills and Their Role in Investment Behaviour

In the current era of digital transformation, the role of digital skills has moved beyond technological fluency—it has become a critical determinant of economic inclusion, financial capability, and empowered individual investment behaviour. The rise of digital financial services, including internet banking, robo-advisors, personal finance dashboards, e-wallets, and online investment platforms, has reshaped how individuals consume, interpret, and act on financial information (OECD, 2021).

For women in formal professions, particularly in academia, digital skills extend beyond operational utility; they serve as gateways to economic participation, financial autonomy, and informed investment decision-making. The present study conceptualizes digital skills as a multidimensional construct comprising not only technical fluency but also digital confidence, critical literacy in online finance, and the ability to transact safely in cyber environments.

Defining Digital Skills: Conceptual Scope

Digital skills refer to the capacity to confidently, critically, and securely engage with digital tools, platforms, and resources to access, process, and manage information. The European Commission (2016) outlines five core categories:

- **Basic ICT literacy:** Using computers, smartphones, and web applications;
- **Digital communication:** Collaborating and interacting through virtual tools;
- **Data and information literacy:** Sourcing, evaluating, and synthesizing data;
- **Digital safety and ethics:** Recognizing cyber threats and managing online privacy;
- **Technology-enabled problem-solving:** Applying digital tools to accomplish tasks.

In financial contexts, this competency translates to:

- Navigating digital platforms for investments, including mobile apps (e.g., Zerodha, Groww);
- Comparing financial products and services across digital interfaces;
- Consuming and interpreting online financial education materials;
- Conducting secure digital transactions using UPI, net banking, and digital wallets.

OECD (2019) reinforces this integration by conceptualizing digital financial literacy as the nexus between traditional financial literacy and digital literacy—highlighting that the efficacy of one is increasingly dependent on the other.

Evolution of Digital Skills and Financial Integration

Initially, digital skills were limited to computer-based proficiency, often perceived as a technical rather than financial asset. However, technological proliferation—especially through FinTech innovations—has integrated digital fluency directly into the financial decision-making pipeline (Goyal & Joshi, 2021).

In India, policy thrusts such as Digital India (2015) and the rapid expansion of the Unified Payments Interface (UPI) have revolutionized accessibility to digital finance. The COVID-19 pandemic acted as a catalyst, dramatically accelerating digital adoption in traditionally offline sectors, including finance (World Bank, 2022).

Women, particularly professionals, were compelled to integrate digital tools into their routines—including investment activities—often without structured digital education or formal financial literacy. This has intensified the relevance of digital skills as both a precondition and amplifier of investment participation.

Components of Digital Skills Relevant to Financial Behaviour

Based on an extensive review of global and Indian literature, the present study identifies four core components of digital skills relevant to investment behaviour:

a) Digital Access and Usage

- Ownership of digital devices (smartphones, laptops);
- Frequency and context of internet usage;
- Familiarity with finance-related apps and mobile banking (e.g., Paytm Money, ET Money).

b) Digital Information Literacy

- Capability to navigate financial websites/apps effectively;
- Ability to **compare** mutual funds, SIP options, stocks, and other instruments;
- Competence in **detecting misinformation**, scams, or promotional bias.

c) Digital Transactional Confidence

- Comfort with executing online transactions using secure gateways;
- Familiarity with cybersecurity measures like OTP, encryption, and verified platforms;
- Trust in the functionality and legitimacy of digital financial channels.

d) Digital Risk Awareness

- Knowledge of digital fraud, phishing, and identity theft;

- Understanding of privacy protocols (e.g., password security, data-sharing permissions);
- Familiarity with redressal mechanisms (RBI Ombudsman, SEBI grievance redressal tools).

These components influence not only whether individuals choose to invest digitally but also how responsibly, confidently, and strategically they do so.

Theoretical Significance: Digital Skills and Investment Behaviour

The relationship between digital skills and investment is grounded in established behavioural and technological frameworks:

- **Technology Acceptance Model (TAM)** suggests that perceived ease of use and perceived usefulness are key to adopting digital tools (Davis, 1989). Applied to finance, this implies that digital literacy boosts adoption of online investment platforms.
- **Behavioural Life Cycle Hypothesis** (Shefrin & Thaler, 1988) posits that tools simplifying financial planning can mitigate behavioural anomalies like procrastination and mental accounting—precisely the advantage offered by mobile investing tools.
- **Capability Approach Theory** (Sen, 1999) argues that access alone is not sufficient; individuals must possess the competencies to convert opportunities into outcomes. Hence, digital skills empower women to convert access to financial services into effective investment behaviour.

Empirical Evidence:

- Lusardi and Mitchell (2014) highlighted that digital capability mediates financial knowledge and financial outcomes.
- OECD (2020) linked digital fluency with better investment diversification and risk-adjusted returns.
- In India, (Swar and Bansal 2020) found digital readiness among working women to predict mutual fund and SIP uptake.

Gender and the Digital Divide: A Contextual Challenge

The digital gender gap remains a formidable barrier to financial inclusion. In low- and middle-income countries, women are less likely to own devices or use mobile internet (ITU, 2022). In India:

- Women are 41% less likely than men to use mobile internet (GSMA, 2023);
- Barriers include affordability, lack of digital education, socio-cultural restrictions, and fears around digital security (UNICEF & IAMAI, 2020).

For female academics, these barriers manifest as:

- Low exposure to emerging FinTech applications;
- Discomfort with high-stakes digital transactions (e.g., stock market, cryptocurrency);

- Dependence on male family members for platform navigation or investment execution.

Bridging this divide is not only essential for investment participation—it is essential for autonomy, economic agency, and upward mobility.

Empirical Evidence and Indian Context

Contemporary research from India validates the critical role of digital skills:

- Sengupta and Raut (2020) found that digital skills predict higher adoption of mobile-based saving and insurance tools among working women in West Bengal.
- Kaur and Arora (2021) reported a strong correlation between digital self-efficacy and participation in equity markets among urban women.
- Bansal and Rani (2021) showed that digital literacy significantly enhances financial autonomy and retirement planning.
- The Reserve Bank of India (2021), in its Digital Financial Literacy initiative, emphasized that secure, confident participation in digital finance is essential for inclusion and economic democratization.

Digital skills act as a behavioural catalyst within the investment ecosystem. They not only enable but also condition how women perceive risk, trust platforms, and execute investment strategies. For female academics in Kolkata, digital competence is not simply a technical asset; it is a key enabler of financial independence and upward mobility.

This study integrates a nuanced, empirically grounded understanding of digital skills as a predictor of financial behaviour. It contributes to the literature by bridging gender, digital access, and investment inclusion, offering vital insights for policy, education, and gender-sensitive financial reform.

Existing Policy Measures Promoting Improved Individual Investment Behaviour

Financial Attitude aligned existing policies (sub construct of Financial Literacy)

1. Institutional Incentives for Long-Term Saving (e.g., Salary-linked Investments)

Related National Policy: National Pension System (NPS) is a voluntary, long-term retirement savings scheme initiated by the Government of India, offering tax benefits under Section 80C and 80CCD (1B). The scheme is especially promoted among salaried professionals for retirement preparedness.

Public Provident Fund (PPF), backed by the Government of India, allows long-term investment with tax-free interest and principal under Section 80C. Several universities and central government institutions promote voluntary salary deductions into PPF accounts.

International Parallel: The Automatic Enrolment Retirement Schemes used in the UK and New Zealand (e.g., KiwiSaver) mandate workplace retirement savings, where employees are automatically enrolled unless they opt out (OECD, 2018).

2. Structured Financial Planning Workshops in Higher Education

National Strategy for Financial Education (NSFE) 2020-2025

Financial education should include attitude training as well because in some demographic groups, living in the present and not thinking about the future may be prevailing values. (National Strategy for Financial Education, 2010). The NSFE, developed by the National Centre for Financial Education (NCFE) under the guidance of the Reserve Bank of India (RBI) and other financial regulators, aims to create a financially aware and empowered India. It emphasizes the need for financial education across various segments, including women, to improve their financial well-being. The strategy outlines a multi-stakeholder approach to disseminate financial education and includes specific objectives targeting women's financial literacy.

Financial Literacy Week (FLW) 2025 "Financial Literacy: Women's Prosperity"

Organized by the RBI, the FLW 2025 focused on the theme "Financial Literacy: Women's Prosperity." (Reserve Bank of India's Financial Education Initiative, 2025). The initiative aimed to empower women by enhancing their understanding of financial products and services, encouraging them to make informed financial decisions. Activities included awareness campaigns, dissemination of financial education materials, and collaboration with various stakeholders to reach women across the country.

Financial Education Program for Adults (FEPA)

Implemented by the NCFE, FEPA (The Financial Education Programme for Adults (FEPA), 2019) is designed to spread financial awareness among the adult population, including women. The program covers topics such as budgeting, savings, investments, and digital financial literacy. It targets various groups, including self-help groups, Anganwadi workers, and other women-centric organizations, aiming to improve their financial decision-making capabilities.

SIDBI's Gender and Financial Literacy Initiatives

The Small Industries Development Bank of India (Gender and Financial Literacy Initiatives, 1990) has undertaken several programs focusing on financial literacy and women empowerment. These include:

- Financial literacy and women empowerment programs in Uttar Pradesh, Bihar, Madhya Pradesh, and Odisha.
- Partnerships with government institutions like State Rural Livelihood Missions (SRLMs) to enhance financial literacy among women.
- Use of technology to improve the reach and retention of financial literacy modules among women.

Other existing policies in India include, several national and local efforts put into place to promote and enhance women's financial literacy. At the local level, Mahila Money (Mahila Money, 2021) offers microloans and financial education via a digital-first platform, while the Mann Deshi Foundation (Mann Deshi Foundation, 2018) offers rural women banking services

and hands-on financial training. Through self-service kiosks in underprivileged regions, Rang De's Swabhimaan (Swabhimaan 2.0—A step towards an inclusive India., n.d.) initiative raises knowledge of financial matters. Additionally, to increase women's financial engagement, in Rajasthan, Ibtada self-help group (Ibtada, 1997) approach incorporates community-level credit availability and financial education. Collectively, these initiatives play a vital role in shaping positive financial attitudes and enabling informed investment behaviour among women.

Related National Programs include Investor Education and Protection Fund Authority (IEPFA) under the Ministry of Corporate Affairs conducts regular investor awareness programs across institutions, including universities. SEBI's Financial Education Resource Persons (FERP) initiative trains individuals to deliver financial literacy workshops across different demographic groups, including working professionals. International Equivalents like OECD's International Gateway for Financial Education (INFE) promotes structured, curriculum-embedded financial education at tertiary institutions globally.

3. Personalized Financial Guidance

Related National Programs include SEBI's Registered Investment Advisors (RIAs) which comprises of certified professionals legally authorized to provide fiduciary-grade personal financial advice. Many financial literacy initiatives now include RIA-led clinics for working professionals. In Australia, the Money Smart program (ASIC) offers tools and professional connections for tailored financial planning.

4. Access to Financial Planning Apps

An example of a related National Policy can be RBI's Digital Financial Services (DFS) Framework which encourages app-based financial services for budgeting, investing, and saving. Institutions like LIC and NSDL now offer planning calculators and dashboards. CA Sandbox (UK) supports FinTech development for public financial wellness, including apps for budget tracking and investment planning.

5. Linking Financial Attitudes with Professional Development

Some public institutions now include “wellness and development goals” in staff annual reports, often with workshops on emotional, social, and financial well-being. OECD's Financial Education in the Workplace initiative recommends embedding financial awareness within Human Resource Development (HRD) frameworks.

Digital Skill Aligned Existing Policies /Initiatives:

1. Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA) (PMGDISHA, 2010), this national initiative focuses on promoting digital literacy among rural households, with a special emphasis on empowering women. It aims to enable rural citizens, particularly women, to actively participate in the digital economy and bridge the digital divide.

2. Digital Sarthak: Targeting 16,000 rural women nano-entrepreneurs, Digital Sarthak promotes digital entrepreneurship and improves the online visibility of women-led businesses.

It equips participants with essential digital skills and market access tools to build sustainable micro-enterprises in rural areas. [Source: digitalsarthak.defindia.org].

4. Internet Saathi: This program is designed to improve digital literacy by training women in villages to use the internet and, in turn, teach other women in their communities. Active in over 170,000 villages, it fosters peer-based digital education and significantly enhances grassroots digital engagement. [Source: tatatrusters.org].

5. Digital Shakti Campaign: Focused on cyber safety and online resilience, this campaign raises awareness among young women across six Indian states. It has reached over 60,000 young women, educating them about safe online practices, digital rights, and responsible internet use. [Source: digitalshakti.org].

6. UPI for Her: Developed to enhance financial inclusion, this initiative leverages the UPI platform to facilitate digital payments tailored specifically to women's financial behaviour and preferences. It integrates women more fully into the digital financial ecosystem and promotes autonomy in money management. [Source: womensworldbanking.org].

7. Digital Laado: Aimed at reducing the dropout rate of girls from higher education, Digital Laado provides digital skills and support mechanisms to girls at risk. It fosters greater online participation and opens new academic and professional opportunities through targeted digital interventions. [Source: ficci.in]. International Corollary includes UN Women's Digital Finance for Women Initiative works with banks and universities to develop integrated digital and financial education for female professionals. Sengupta and Raut (2020) show that bundling digital and financial modules improves retention and practical application among women professionals.

2. Certified Masterclasses with Incentives (SEBI, RBI Collaboration)

National Alignment:

- SEBI Investor Awareness Program (IAP)
- RBI's eKuber training for digital banking literacy

However, these programs often lack gender-sensitive pedagogy or incentives for completion.

International Example: OECD-Asia Alliance on Financial Inclusion (2021) piloted incentivized e-learning modules for women in Malaysia and Indonesia.

Term Defined: *Learning-based financial incentives* are structured rewards such as tax credits, app cashbacks, or certification-based loans that motivate individuals to complete skill-building programs.

Cognitive Biases Aligned Existing Policies /Initiatives:

Although there are currently no policies in India specifically addressing "self-referential bias" in investment behaviour, several initiatives use financial literacy and empowerment programs to address elements of this bias cluster, including self-serving biases, anchoring, confirmation, overconfidence, and familiarity. An organised summary of these efforts is provided below:

1. National Strategy for Financial Education (NSFE) 2020–2025

- Implementing Body: Reserve Bank of India (RBI) and Financial Stability and Development Council (FSDC) Sub-Committee.
- Objective: To create a financially aware and empowered India by developing financial literacy and education programs.
- Relevance to Biases: The strategy emphasizes behavioural aspects influencing financial decisions, aiming to mitigate biases like overconfidence, and anchoring through education.

2. Investor Education and Protection Fund (IEPF)

- Implementing Body: Ministry of Corporate Affairs, Government of India.
- Objective: To promote investor awareness and protect investor interests through education and outreach programs.
- Relevance to Biases: By educating investors about market dynamics and investment risks, the IEPF aims to reduce familiarity and confirmation biases. (www.iepf.gov.in).

3. National Centre for Financial Education (NCFE) Initiatives

- Implementing Body: NCFE, promoted by RBI, SEBI, IRDAI, and PFRDA.
- Objective: To implement the National Strategy for Financial Education and conduct financial literacy assessments. (Maurya, 2022)
- Relevance to Biases: NCFE's programs aim to enhance financial decision-making skills, thereby addressing overconfidence and self-serving biases. (<https://ncfe.org.in/>).

4. National Commission for Women (NCW) Financial Literacy Initiatives

- Implementing Body: National Commission for Women, Government of India.
- Objective: To empower women through financial literacy and education, particularly in rural areas.
- Relevance to Biases: By providing financial education tailored for women, these initiatives help mitigate biases like overconfidence and self-serving bias. (<https://pib.gov.in/>).

Other policies on cognitive biases may include

- **Bias-Specific Financial Counselling Packages:** While India does not offer bias-targeted counselling, programs under the Investor Education and Protection Fund (IEPF) and NCFE encourage prudent investing and promote basic behavioural awareness. CA UK's Behavioural Insights Project uses nudges and default options to correct cognitive bias in retirement planning and insurance uptake (FCA, 2018).

- **Reflective Financial Decision Records (Self-Serving Bias):** No formal policy in India mandates personal financial reflection; however, IEPF and NCFE occasionally encourage participants to journal financial goals. Talking of Global Parallel Some OECD-EU pilot financial planning programs include self-tracking of decisions and outcomes as a form of behavioural introspection. Baker and Ricciardi (2014) note that reflective practices reduce attributional distortions and promote humility in investing.
- **Investment Benchmarking Workshops (Anchoring Bias):** NCFE promotes financial goal-setting but does not explicitly address *anchoring* a bias where investors rely too heavily on initial information (e.g., IPO price, first stock pick). The FCA UK's Smarter Consumer project trains financial advisors to dislodge anchor points in investor expectations. Tversky & Kahneman (1974) originally identified this bias; subsequent work (Campbell et al., 2009) shows its impact on stock valuation.

Big Five Personality traits Aligned Existing Policies /Initiatives:

1. National Commission for Women (NCW's) Capacity Building & Personality Development Program for Women Students

- **Objective:** Launched by the National Commission for Women, this program aims to make women students employment-ready through capacity building.
- **Personality Traits Targeted:** Confidence, communication skills, and self-efficacy.
- **Relevance:** By focusing on soft skills and personal development, the initiative fosters traits like extraversion and openness, crucial for career advancement.

2. NCFE's Financial Education Programs

Implementing Body: National Centre for Financial Education (NCFE), promoted by RBI, SEBI, IRDAI, and PFRDA. Designed to enhance financial literacy in schools, colleges, and workplaces, these programs build:

- **Conscientiousness:** by promoting budgeting and disciplined saving
- **Emotional stability:** by reducing anxiety about money matters through education
- **Openness:** via exposure to diversified financial instruments and platforms

Relevance to Personality: While not explicitly targeting personality traits, the structured nature of these programs has an indirect behavioural effect instilling prudence, patience, and long-term goal orientation. Tang and Baker (2016) argue that conscientious individuals are more likely to make systematic, goal-aligned financial decisions. Financial education that targets these qualities can enhance self-regulation and rational planning.

3. OECD-INFE Financial Education Framework

Though not focused solely on personality, the OECD-INFE (2022) framework includes *psychological determinants of financial behaviour*, acknowledging that traits like confidence (extraversion), planning (conscientiousness), and emotional regulation (low neuroticism)

influence how individuals save and invest. The OECD's framework aligns with your thesis in treating financial behaviour as an outcome of cognitive, behavioural, and dispositional (personality-driven) capacities. OECD (2013) notes that "non-cognitive skills" such as persistence, motivation, and emotional control closely tied to personality are important determinants of financial capability.

4. World Bank's Financial Capability Measurement Tools

These instruments are increasingly incorporating psychosocial modules, measuring not just financial knowledge but also confidence, resilience, and long-term thinking—traits associated with the Big Five. *Financial capability* is a broader concept than financial literacy, including not only knowledge and skills but also psychological and personality traits that enable effective money management. Grohmann et al. (2018) found that personality traits significantly predict financial literacy and investment behaviour, suggesting that incorporating such measures into public policy can improve outreach and impact.

5. United Nation's Development Programme (UNDP's) Behavioural Insights Initiative

This global initiative emphasizes the psychological underpinnings of human decision-making, including personality traits, to inform public financial behaviour strategies. It advocates tailoring policy communication to personality-informed profiles such as appealing to risk-averse individuals with stability-focused products. John & Thomsen (2021) emphasized that *personalized nudging* based on personality traits increases engagement with financial tools, particularly among cautious female investors.

4

CHAPTER 4

Sample of the Study & Research Methodology

CHAPTER 4

SAMPLE OF THE STUDY & RESEARCH METHODOLOGY

4.1 Chapter Orientation

This chapter provides a systematic exposition of the research methodology adopted in the present study. Grounded in the preceding theoretical and literature-based constructs, it outlines the rationale behind the chosen research design, explicates the methodological approach, and describes the stepwise process involved in data collection, sampling, and analysis. The objective is to ensure methodological transparency while aligning with the study's overarching goal to explore the multidimensional aspects of investment behaviour through a gendered and digital lens.

4.2 Study Variables

This study aims to examine the impact of psychological influences, financial literacy, and digital competency on the investment behaviour of female academics in Kolkata. The research framework is structured around two sets of variables:

1. Dependent Variable: Investment behaviour.
2. Independent Variables:
 - a. Financial literacy.
 - b. Digital competency.
 - c. Cognitive Biases and
 - d. Personality Traits.

4.2.1 Dependent Variable

In this study, the dependent variable is Investment Behaviour, defined as the observed financial decision-making patterns of individuals in response to various psychological, cognitive, and socio-economic influences. Drawing from relevant behavioural finance literature, Investment Behaviour is conceptualized as a multidimensional construct, reflecting the cognitive, affective, and conative components of financial decision-making.

To capture this multidimensionality, Investment Behaviour has been operationalized through the following three sub-constructs:

a) Risk Capacity

Risk Capacity in this study refers to the respondent's attitudinal and behavioural disposition towards risk-taking in financial decision-making. Rather than measuring financial preparedness or income-based tolerance, the construct captures the individual's psychological willingness to assume investment risk, especially in the face of uncertainty or potential loss.

It is operationalized through the following questionnaire items:

- a) “You would not prefer to sell off entire investments when the actual returns fall below expected returns.” (*Measures resilience and long-term orientation in the face of market volatility.*)
- b) “You would prefer to take maximum risk while you take an investment decision.” (*Captures general risk appetite and openness to high-risk, high-return options.*)
- c) “Your approach is highly aggressive while you take an investment decision.” (*Assesses proactive, assertive, or speculative behaviour in financial planning.*)

These items reflect the respondent's cognitive and conative reactions to risk, focusing on emotional stability, risk appetite, and investment assertiveness. Responses were recorded on a Likert scale and subjected to Ordinal Principal Component Analysis (OPCA) to derive a composite score representing overall risk capacity. This factor score was then used as a dependent variable in the binary logistic regression analysis to evaluate the effect of independent psychological and socio-economic factors on risk-based investment behaviour.

b) Investment Strategy

Investment Strategy in this study is reflected through individual's preferred sources of financial information and decision-making style. It aims at assessing the extent to which respondents rely on personal, professional, or technology-based guidance in the investment process. The following components were used to measure this construct:

- a) Use of Independent Media Sources (e.g., financial news, online articles, TV)
- b) Use of Personal (Family) Sources (e.g., spouse, parents)
- c) Use of Personal (Friends) Sources
- d) Use of Professional Sources (e.g., financial advisors, brokers)
- e) Use of Technology for Investment Process (e.g., investment apps, online trading platforms)

The pattern of source usage was analysed to identify strategic orientation—self-guided, socially influenced, or professionally driven. A binary coding was created to distinguish between professional vs. non-professional source reliance, enabling logistic regression analysis.

c) Investment Priorities

Investment Priorities capture the affective and motivational dimensions of financial behaviour—i.e., the goals and intentions that drive investment choices. This construct includes the following components:

- i) **Preferred Investment Alternative** like shares, Mutual Funds, Debentures & Bonds, Precious metals, Real Estate, Fixed Deposits, Crypto assets, Insurance and Pension plans, Post office saving schemes etc.

- ii) **Investment Objectives** of the respondents including Marriage, House/Property acquisition, Education of family members, Retirement Planning, Tax Planning etc.

4.2.2 Independent Variables

a. Financial Literacy

This study conceptualizes Financial Literacy as a multidimensional construct comprising **Financial Knowledge**, **Financial Attitude**, and **Financial Behaviour** each assessed as an independent variable influencing investment behaviour. This tripartite model aligns with the framework proposed by the (OECD/INFE 2018,2020) and widely endorsed in empirical financial literacy research.

Financial Knowledge represents an individual's factual understanding of key financial concepts, instruments, and decision-making mechanisms. It includes awareness of inflation, interest rates, risk-return trade-off, time value of money, and financial products such as insurance, mutual funds, and retirement accounts. Financial knowledge provides the cognitive foundation for evaluating investment options and navigating increasingly complex financial markets. A higher level of financial knowledge equips individuals to make informed, rational investment choices and avoid being misled by financial misinformation or speculation.

Financial Attitude reflects an individual's mindset and predisposition towards saving, financial planning, and long-term financial security. It includes preferences for saving versus spending, goal-setting behaviour, and the perceived importance of financial planning. This attitudinal orientation influences how seriously individuals take their financial responsibilities and future preparedness. Individuals with a positive financial attitude are more likely to engage in proactive investment behaviour, delay gratification, and allocate resources for long-term wealth accumulation. In this study, financial attitude emerges as a key psychological motivator underlying investment readiness.

Financial Behaviour refers to the actual day-to-day financial practices of individuals, such as budgeting, timely bill payments, saving habits, monitoring expenses, and reviewing financial documents. It bridges the gap between knowledge and action, capturing how individuals translate their financial understanding and intentions into consistent economic behaviour. Sound financial behaviour indicates self-discipline, future orientation, and the ability to manage financial risk pragmatically. Conversely, erratic, or poor financial behaviour may lead to short-sighted or impulsive investment decisions.

Together, these three components of financial literacy offer a holistic understanding of how individuals acquire, internalize, and apply financial capabilities. By disaggregating the construct into cognitive (knowledge), affective (attitude), and behavioural (practice) dimensions, this study examines how each component independently and collectively influences the investment decisions of female academics in an urban Indian context.

b. Digital Skills

This study incorporates Digital Skills as a critical independent variable influencing investment behaviour, particularly within the context of increasing digitization of financial services in India. Digital skills are conceptualized as a multidimensional construct encompassing the ability to access, navigate, and confidently use digital platforms for financial decision-making. The construct draws upon frameworks such as the European Commission's Digital Competence Framework (DigComp) and relevant adaptations in the financial inclusion literature.

Digital Access and Awareness form the foundational layer of digital skills, referring to the respondent's ability to access digital devices (e.g., smartphones, laptops), stable internet connectivity, and awareness of online financial platforms. In the context of financial investment, access to digital infrastructure enables individuals to explore a broad range of financial instruments, compare investment products, and track portfolio performance in real time. Lack of digital access remains a structural barrier, especially for women professionals in under-resourced institutional settings.

Digital Usage and Navigation Proficiency reflect the respondent's operational competence in using financial technology tools such as mobile banking apps, UPI interfaces, investment platforms (e.g., mutual fund apps, trading accounts), and online payment gateways. It also includes the ability to search, interpret, and evaluate financial content on the internet. Proficient digital usage supports independent investment decisions, reduces reliance on intermediaries, and fosters better financial control through real-time access to market data and services.

Digital Confidence and Risk Tolerance in Online Environments refer to the individual's self-assurance in performing secure online transactions, managing digital financial accounts, and resolving technology-related issues. This psychological dimension influences how comfortably an individual engages with digital finance, particularly in situations involving perceived risk—such as entering personal or financial data online. High digital confidence reduces decision paralysis and enhances one's likelihood of exploring diverse investment avenues such as SIPs, ETFs, or robo-advisory services.

In this study, digital skills are measured through a set of structured questionnaire items designed to capture both functional and attitudinal dimensions of digital capability. The construct is treated as an enabling factor that mediates access to financial information, supports informed decision-making, and facilitates active participation in financial markets. Given the increasing digitalization of India's financial ecosystem, digital skills are considered a vital competency for improving financial inclusion, especially among educated urban women.

c. Cognitive Biases

This study incorporates significant psychological effects by analysing seven well-known cognitive biases discussed in the literature of behavioural finance. These prejudices, used as independent variables, are systematic errors from correct judgment (even when perceptions are accurate, they affect individual investment decisions; these feelings are often subconscious).

Anchoring Bias The human tendency to base too much on the first piece of information (the "anchor") we hear. Investors in financial markets, for example, may fixate on past prices for anchor and evaluate new information in reference to purchase prices that were initially paid for an asset or random reference points (Barberis and Xiong, 2012) and as a result may fail to efficiently sell underperforming assets only because at some earlier date the asset devices commanded a higher price. Anchoring is an expression of cognitive rigidity and can inhibit adaptive investment behaviour, particularly in volatile or fast-moving markets.

Confirmation Bias describes the tendency to look for, process, and remember information that confirms one's prior beliefs or hypotheses. Investors affected by this bias submit attention to some evidences in favour of their decisions and ignore unsupported information. Such a reinforcing loop can lead to excessive risk taking, lack of diversification, and slow correction of investment mistakes in a way that undermines rational investment behaviours.

Overconfidence Bias is the belief that our own financial knowledge or abilities are better than they really are. Overconfident investors tend to underestimate risk and overestimate reward, resulting in too frequent trading, under diversification, or other speculative behaviours. Originating from cognitive egoism, this bias might be especially strong for those who think their own intuition is smarter than the market and expert advice.

Cognitive Dissonance is the stinging discomfort we feel when we act in a way that is at odds with what we think, believe, or even how we see ourselves. In investment environments, it can appear when people rationalize bad investment decisions to remain internally consistent or preserve their self-worth. For example, one might justify an unprofitable investment decision as being "long-term" rather than simply acknowledging the error. This bias tends to prevent loss from being recovered and promotes inertia in the administration of portfolios.

Familiarity Bias is a preference toward that which is known or locally identifiable in respect to securities, corporations, or investment categories (at times this occurs in lieu of wider diversification). Investors, affected by this bias, shy away from unknown options even if returns are higher or risk is less because of cognitive ease and safety. This conservative bias may result in portfolios that are regionally or sectorally concentrated.

Self-Serving Bias is where you attribute success to your skill and failure to factors you cannot control. In the realm of investment, the bias means that learning from historical economic lessons can be clouded by internalizing gains and externalizing losses. This gives rise to an overestimation to one's own investment abilities which possibly is strengthening risky investment behaviours and attempting to prevent the otherwise useful self-reflection.

Decision Paralysis (or Information Overload) Information Overload (or Difficulty Making Decisions) is a state of being overwhelmed by too much information, such that decision-making is postponed or avoided. With the increasing digitization of financial services and availability of vast investment choices, investors—especially those with limited digital or financial literacy—may experience indecision, leading to inaction or reliance on heuristics. This bias undermines timely and proactive financial behaviour, particularly in dynamic markets.

d. Personality Traits

This study employs the Big Five Model to assess psychological influences, utilizing the following five constructs as independent variables:

Extraversion captures the degree to which individuals are outgoing, energetic, and inclined toward social engagement, characterized by traits such as sociability, assertiveness, dominance, talkativeness, and gregariousness. Rooted in Eysenck's arousal theory, extraversion reflects a propensity for positive affect and reward-seeking behaviour, suggesting that highly extraverted individuals may exhibit greater confidence in financial decision-making and a higher tolerance for investment risk due to their comfort with uncertainty and social interactions.

Agreeableness measures interpersonal tendencies marked by compassion, cooperation, and trust, encompassing traits such as courtesy, flexibility, trustworthiness, cooperativeness, forgiveness, and tolerance. This dimension, linked to prosocial behaviour and conflict avoidance, implies that agreeable individuals may prefer conservative or socially endorsed investment strategies, avoiding high-risk opportunities due to their aversion to conflict and tendency toward consensus-seeking behaviour.

Conscientiousness reflects self-discipline, goal-directed behaviour, and adherence to norms, with key traits including diligence, thoroughness, responsibility, organization, achievement orientation, and perseverance. As a predictor of long-term planning and impulse control, conscientiousness is likely associated with systematic financial planning, disciplined investment habits, and a preference for structured, low-risk portfolios, as conscientious individuals prioritize stability and methodical decision-making.

Openness to Experience denotes cognitive flexibility, creativity, and receptivity to novel ideas, characterized by curiosity, originality, imagination, artistic sensitivity, and intellectual engagement. Grounded in theories of cognitive exploration, openness suggests a greater willingness to diversify investments, explore unconventional opportunities, and adapt to market fluctuations, as open individuals are more comfortable with ambiguity and innovation in financial contexts.

Emotional Stability, the inverse of neuroticism, represents resilience and emotional regulation under stress, marked by calmness and self-assurance, whereas neuroticism encompasses anxiety, insecurity, depression, and emotional volatility. Given its association with threat sensitivity, emotional stability likely correlates with steadier investment behaviour, while neuroticism may lead to reactive decisions, such as panic selling or avoidance of volatile markets, due to heightened sensitivity to financial stress and uncertainty.

e. Socio-economic factors

This study considers Socio-Economic Background as a foundational factor influencing investment behaviour. Socio-economic variables shape an individual's access to resources, financial responsibilities, and risk preferences, thereby affecting their overall approach to saving, spending, and investing.

Age influences investment horizons and risk appetite. Younger individuals often exhibit greater openness to risk and long-term investments, while older respondents may prefer safer, income-generating options.

Marital Status affects financial responsibilities and decision-making styles. Married respondents may prioritize financial stability and family security, while unmarried individuals often enjoy more flexibility in investment choices.

Family Income directly determines investment capacity and risk-bearing ability. Higher-income individuals are more likely to diversify their portfolios and explore market-based instruments, whereas lower-income groups may focus on low-risk, fixed-return options.

Educational Qualification enhances financial awareness and decision-making skills. Academics with higher education levels are better equipped to understand financial products, plan for long-term goals, and make informed investment decisions.

Designation and Work Experience reflect earning potential, job stability, and exposure to financial planning. Senior and experienced faculty members are more likely to engage in disciplined investment practices and structured financial planning.

Financial Dependents influence saving priorities and risk aversion. A higher number of dependents often leads to a preference for secure investments, insurance, and emergency savings.

Saving and Spending Patterns are shaped by socio-economic status. Individuals with higher disposable incomes tend to save more regularly, spend on planned goals, and allocate funds for long-term investments, while others may focus on essential expenses and precautionary savings.

Investment Habits vary across socio-economic groups. Those with better financial standing and exposure are more likely to invest in diversified portfolios (e.g., mutual funds, equities, retirement plans), while others may stick to conventional instruments like fixed deposits, recurring deposits, and insurance.

In this study, all socio-economic variables—including income, demographics, saving/spending habits, and investment practices—were measured using structured questionnaire items. Descriptive and inferential analyses were employed to explore their association with investment behaviour among female academics in Kolkata.

4.3 Research Approach

The following subsections provide a description of the methodology used for the investigation:

- a. Research Design
- b. Tools for collecting and measuring data
- c. Demonstrating the scale's reliability and validity.
- d. Sampling Design.

- e. Data collection process, data scoring, and data integration/consolidation.
- f. Statistical techniques used for data analysis.

a. Research Design

A research design is a blueprint that directs a study towards its goal. Through the identification of the characteristics, occurrences, patterns, correlations, and groupings of the important factors, the current study aims to obtain adequate understanding of the research issues previously mentioned. A descriptive research design has been used in the current study to accurately depict the research problem from a holistic standpoint.

This study aims at assessing multiple dimensions of the investment behaviour of female academics. Female academics employed at various higher education institutions in the four main zones—the North, South, East, and West zones—were the sample for this study, which examines the investment behaviour of female academics throughout the Kolkata district of West Bengal.

Objective 1: To study the level of financial literacy and digital skills of the respondents on their investment behavior.

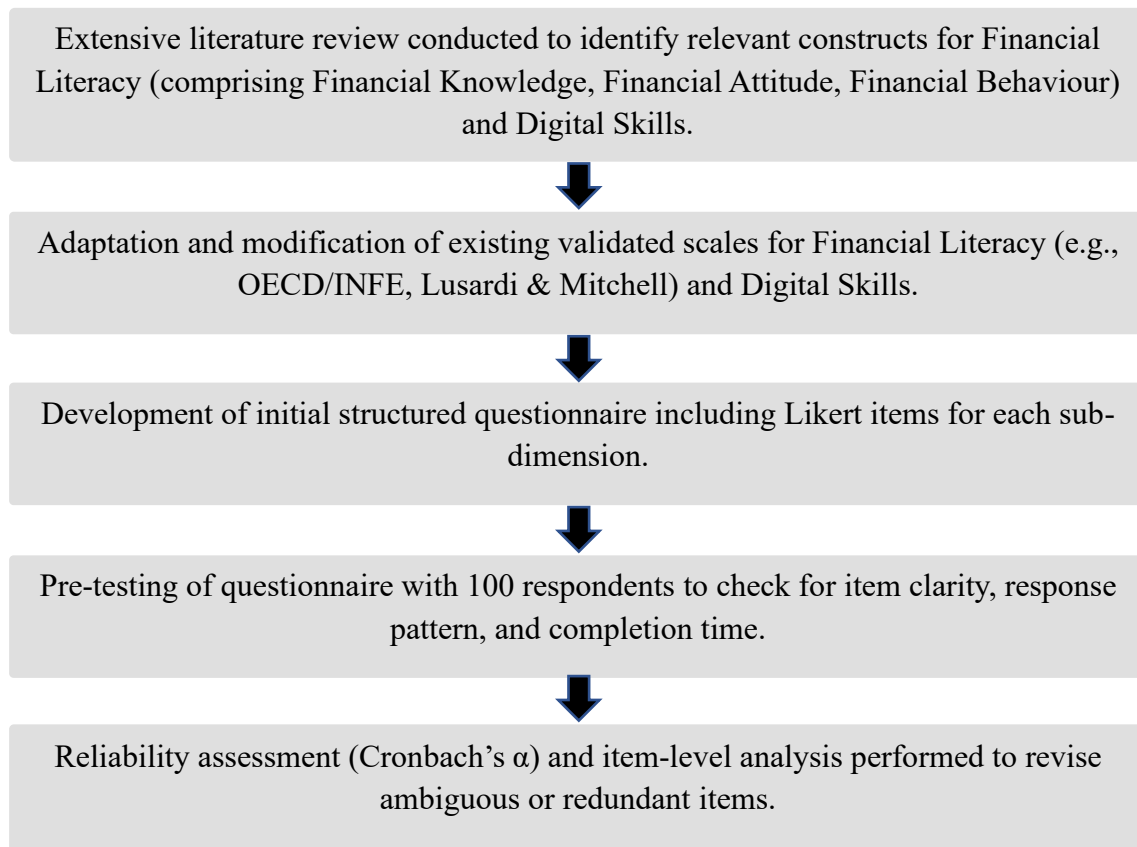


Figure 5 Instrument Design and Pre-Testing Phase.

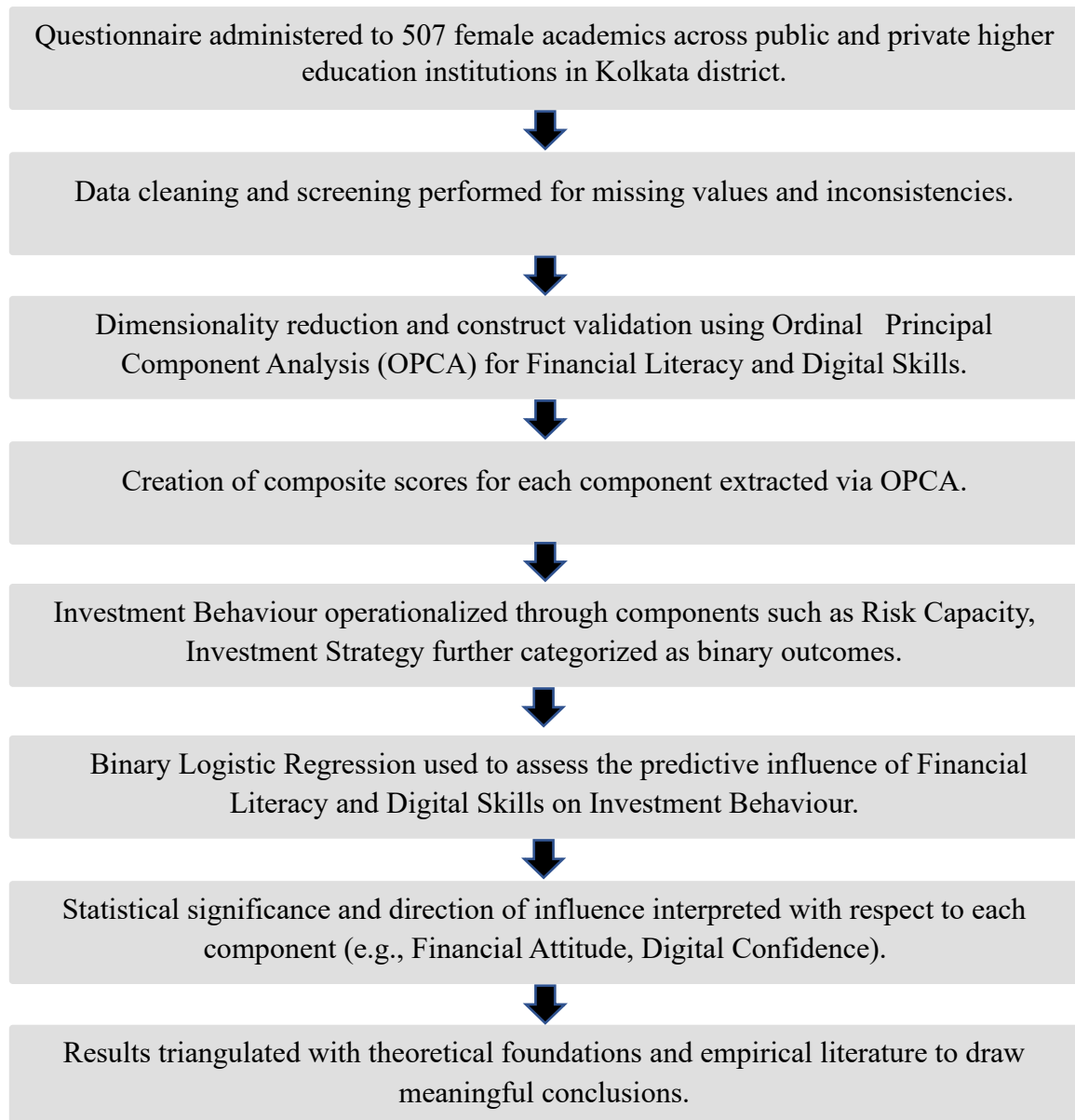


Figure 6 Main Data Collection and Quantitative Analysis.

Objective 2: To investigate the existence of association between Socio-economic background, Cognitive biases, Big Five Personality traits (Five-Factor Model) and the investment behavior of the respondents.

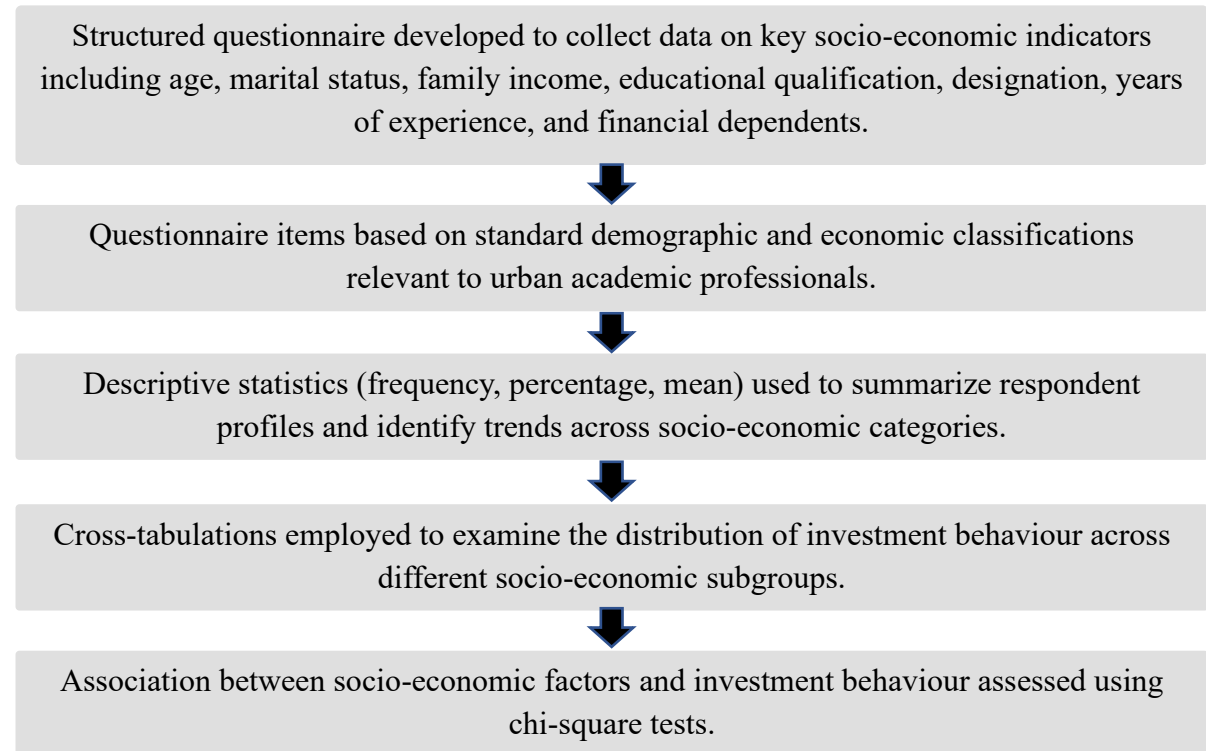


Figure 7 Part A: Socio-Economic Background and Investment Behaviour.

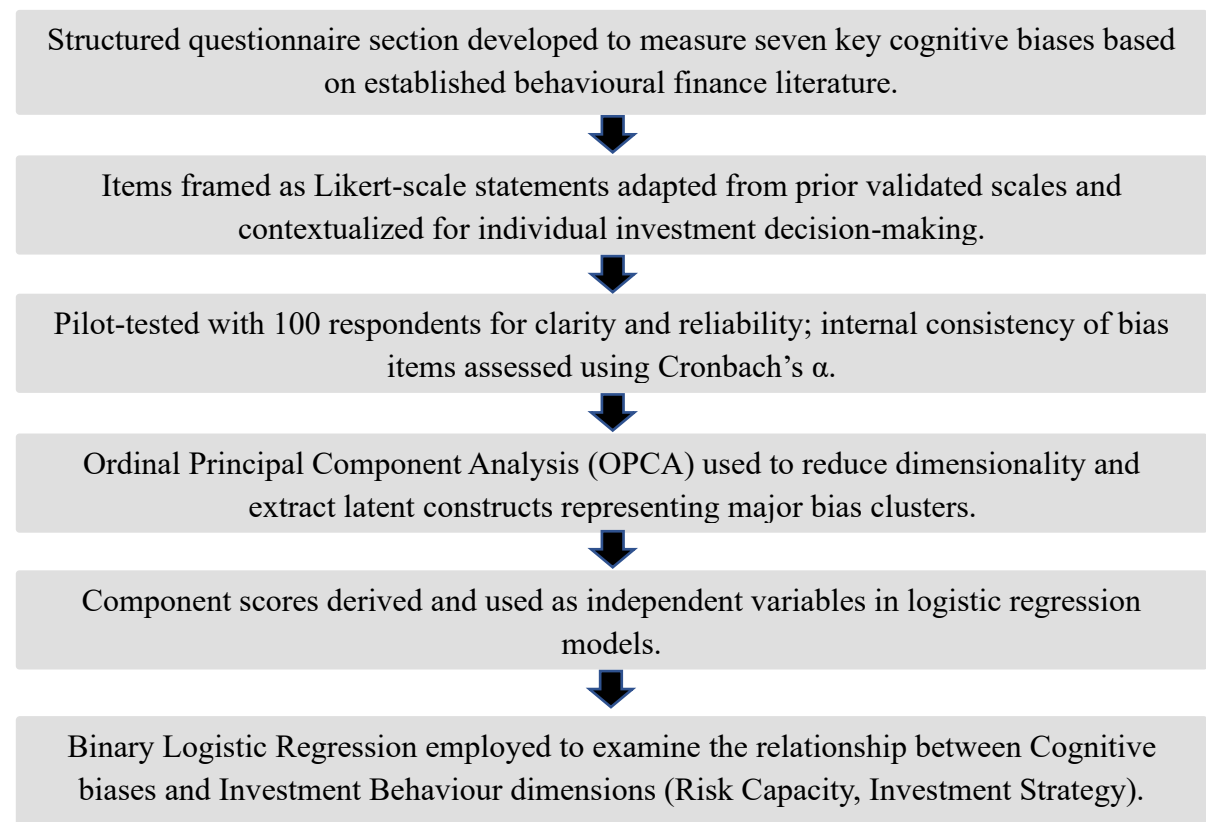


Figure 8 Part B: Cognitive Biases and Investment Behaviour

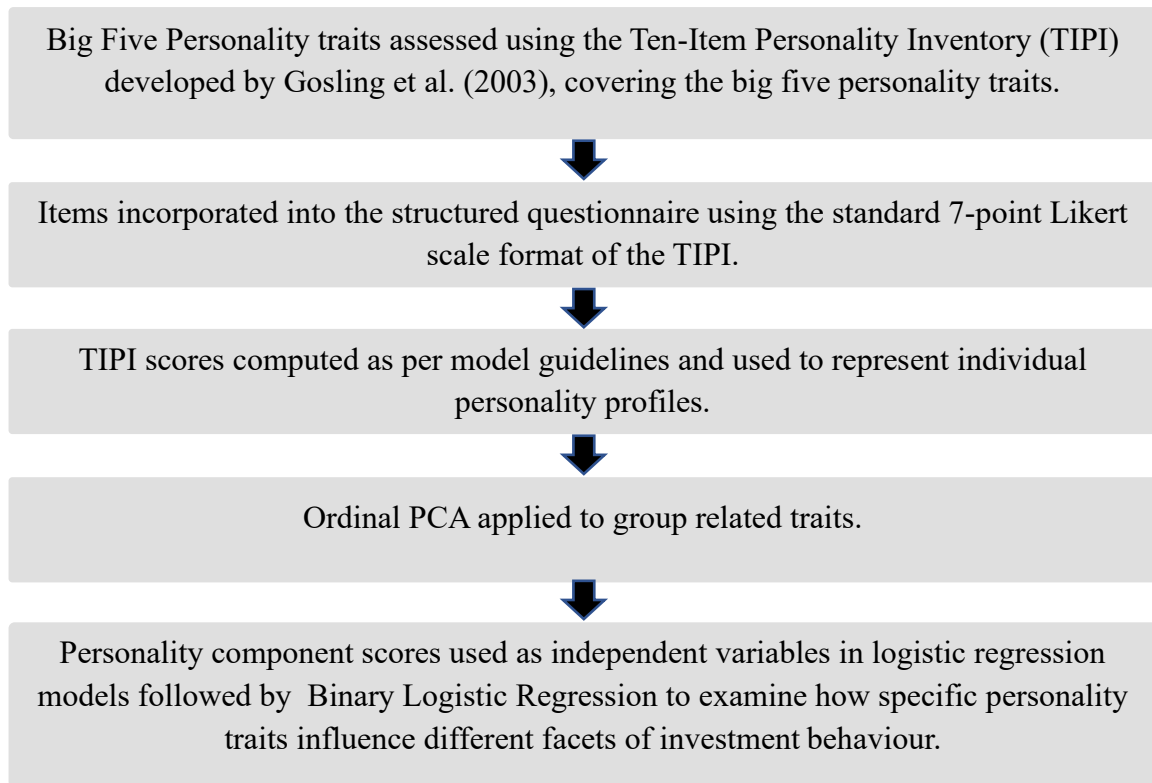


Figure 9 Part C: Big Five Personality Traits and Investment Behaviour

Objective 3: To assess the overall perception of female academics towards financial investment.

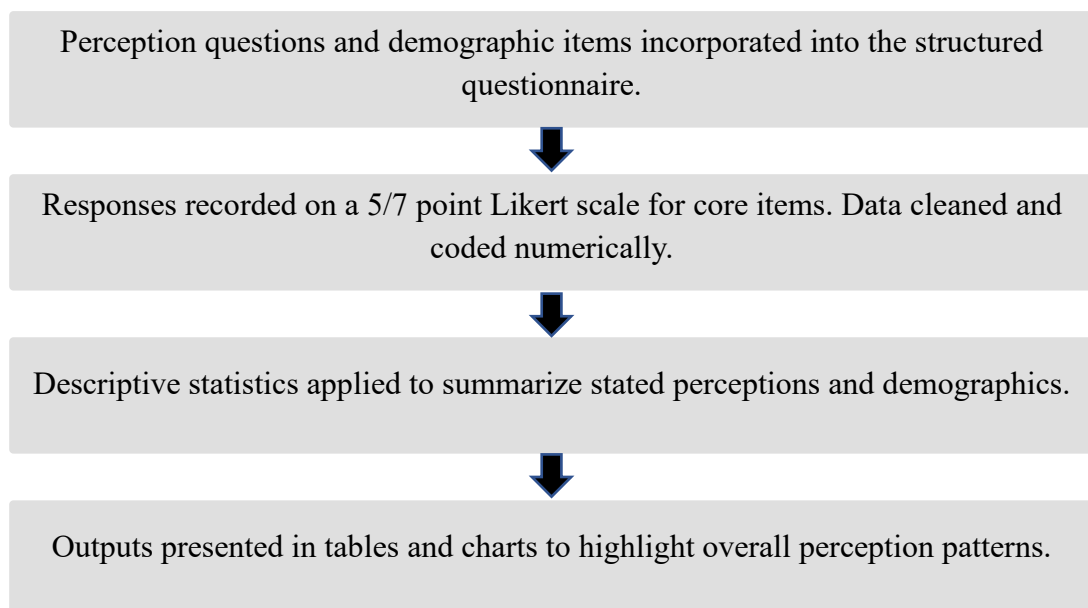


Figure 10 Part A: Stated perception of female academics towards financial investment.

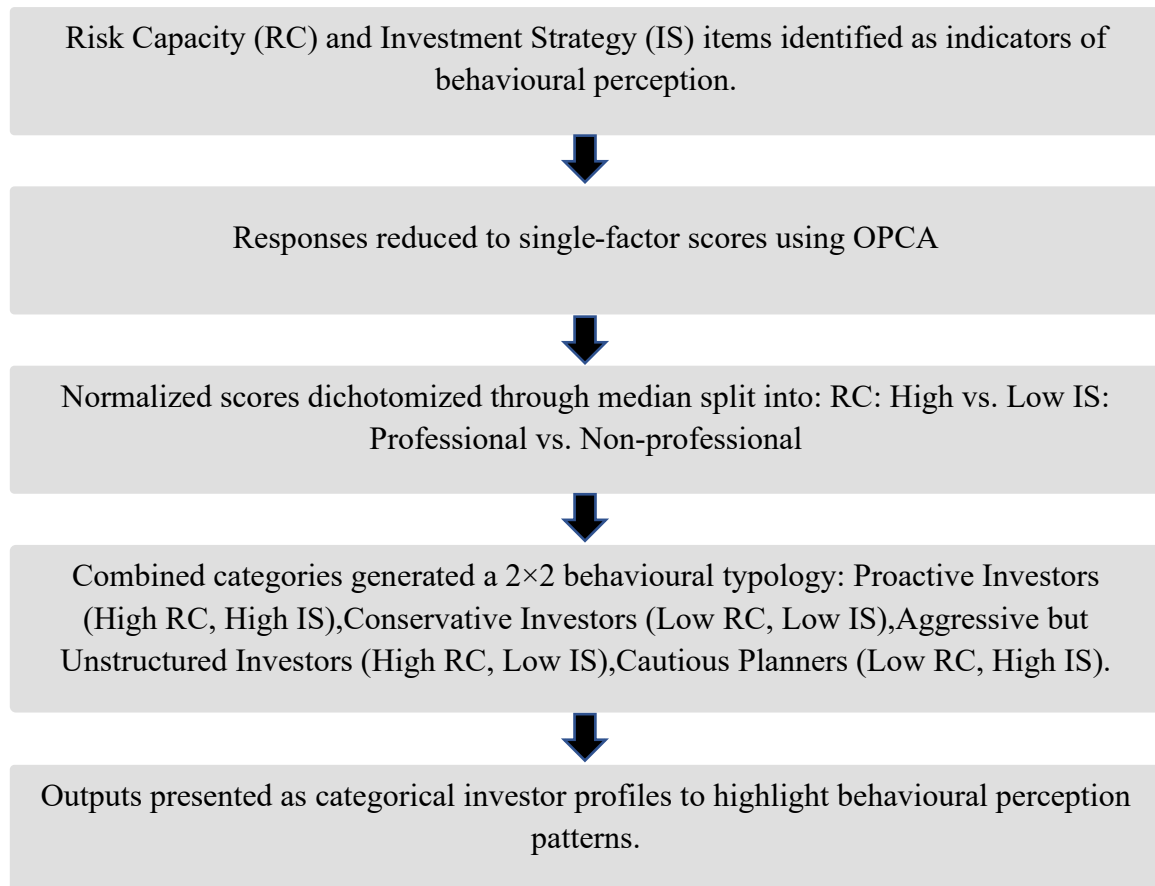


Figure 11 Part B: Derived perception of female academics towards financial investment

b. Tools used for collecting and measuring the data

A structured questionnaire comprising the following components was used to gather the data:

1. A standardised tool developed by the OECD to measure financial literacy was used to evaluate the respondents' levels of financial literacy. The tool comprised specific questions intended to assess each of the three main components: financial behaviour, financial attitude, and financial knowledge. (OECD/INFE TOOLKIT FOR MEASURING FINANCIAL LITERACY AND FINANCIAL INCLUSION, 2022)
2. The respondent's digital skills were evaluated using a standardised instrument from the Manual for Measuring ICT Access and Use by Households and Individuals (2020 Edition), which was developed especially to gauge digital competency. (Manual for measuring ICT access and use by households and individuals 2020 Edition, 2020).
3. Using the Ten-Item Personality Inventory (TIPI) model created by (Gosling, 2003), the respondents' personality attributes were evaluated. A 10-item scale comprising both direct and reverse-scored items is used in this model to identify five essential personality traits.
4. To evaluate the psychological factors influencing investment decisions, the study included seven widely recognized cognitive biases: anchoring bias, confirmation bias, overconfidence bias, cognitive dissonance, familiarity bias, self-serving bias, and decision paralysis. These were selected based on their established relevance in behavioural finance.

literature (Kahneman & Tversky, 1979; Barberis & Thaler, 2003) and their consistent impact on financial decision-making. A structured questionnaire comprising context-specific items was developed to identify the presence of these biases among respondents, enabling a focused analysis of psychological deviations from rational investment behaviour.

5. Respondent demographics, such as age, gender, marital status, education qualification, educational background, occupation type, monthly income, and current workplace, were gathered using nominal data scales.
6. The three identified investment behaviour constructs were measured using 12 questions. The above measure was uniquely conceived, constructed, and validated by the researcher for this research as follows:

First, three characteristics that would essentially characterise an individual's complete approach to investment were identified based on a thorough literature review and in-depth conversations with a variety of investment industry specialists. They were:

1. Risk Capacity.
2. Investment Strategy.
3. Investment Priority.

After that, a total of 12 questions were created to gather data on the three investment behaviour components mentioned above. Of these, 3 questions were related to risk capacity, 7 to investment strategy, and 2 to investment priorities. A pilot study was then carried out using a detailed questionnaire circulated among 100 participants from all zones. Following the pilot study, the redundant and repetitive questions were eliminated, and the final data collection tool was created.

c. Establishing the reliability and validity of the data collection tool.

It is crucial to establish the reliability and validity of the data collection tools. When reapplied under the same settings, the instruments should produce consistent results (reliability) and measure what they were intended to measure (validity).

Validity of the Scales

To ensure the rigor and appropriateness of the measurement tools used in this study, both face validity and content validity were established. The constructs and scales were carefully selected based on an extensive review of literature in behavioural finance, investment psychology, and financial decision-making.

- **Face validity** was ensured by aligning each set of questionnaire items with the theoretical dimensions they were intended to measure. Each item was clearly worded and conceptually relevant to the domain it represented (e.g., risk behaviour, financial attitude, digital proficiency, cognitive bias, personality traits).

- **Content validity** was supported through the adaptation of established, peer-reviewed tools. For instance, the Ten Item Personality Inventory (TIPI) was used to measure the Big Five personality traits, and questions for cognitive biases and financial literacy were constructed based on validated constructs from prior empirical studies. All items were independently reviewed and verified by subject experts for appropriateness and comprehensiveness.

Reliability of the Scales

- Reliability of the research instruments was tested using the internal consistency method, specifically Cronbach's Alpha, which measures the degree to which the items within each construct are correlated and represent a coherent scale. As presented in the table, the following Cronbach's Alpha coefficients were obtained for each construct:

Table 3 Reliability Statistics for Measurement Scales

ITEM	CRONBACH'S ALPHA
ALL ITEMS EXCEPT DEMOGRAPHICS	0.919
FINANCIAL KNOWLEDGE	0.710
FINANCIAL ATTITUDE	0.738
FINANCIAL BEHAVIOUR	0.690
PERSONALITY TRAITS	0.880
COGNITIVE BIASES	0.675
DIGITAL SKILLS	0.772
DEPENDENT VARIABLE (RC)	0.786
DEPENDENT VARIABLE (IS)	0.724

The overall reliability score for all items (excluding demographics) is **0.919**, indicating excellent internal consistency across the instrument. Among the independent variables:

- **Personality Traits** (0.880), **Digital Skills** (0.772), and **Financial Attitude** (0.738) demonstrated strong reliability.

- **Financial Knowledge** (0.710) and **Financial Behaviour** (0.690) were also acceptable, slightly above or near the conventional threshold of 0.70.
- **Cognitive Biases**, with a Cronbach's Alpha of **0.675**, was marginally below 0.70 but still considered acceptable in exploratory behavioural research, particularly when constructs are complex and newly adapted for a specific sample (female academics in Kolkata).

The **dependent variables**—**Risk Capacity** (0.786) and **Investment Strategy** (0.724)—also demonstrated satisfactory internal consistency, indicating that the sub-items used to assess investment behaviour form statistically reliable groupings.

In summary, all the scales used in this study met acceptable reliability standards, reinforcing the internal coherence and consistency of the constructs. Given the strong reliability and validated sources of scale development, the measurement instruments can be deemed both reliable and valid for the present research context.

d. Sampling Design

With the research problem and design clearly delineated, it is imperative to adopt an appropriate sampling strategy to capture valid and reliable data that reflects the underlying patterns of the constructs under investigation (Iacobucci & Churchill, 2018). The sampling process has a direct bearing on how well the study population is represented and, in turn, the quality of insights generated through statistical inference (Hair, Anderson, Tatham, & Black, 2000).

The present study adopted a combination of multi-stage and purposive sampling method with a focus on geographic distribution. This approach was most suitable given the nature of the target population female academics in the Kolkata district for whom a complete sampling frame is not publicly available.

In the first stage, colleges and universities were purposively selected across the four official postal zones of Kolkata: North, South, East, and Central, ensuring wide geographic representation and minimizing locality bias. In the second stage, female faculty members from these institutions were purposively selected based on their relevance to the research objectives.

This sampling strategy ensured that the collected data reflects institutional diversity while capturing patterns of investment behaviour among a meaningful cross-section of respondents across the district. As the goal was not to compare zones but to understand overall behaviour, this method offered both practical feasibility and methodological soundness.

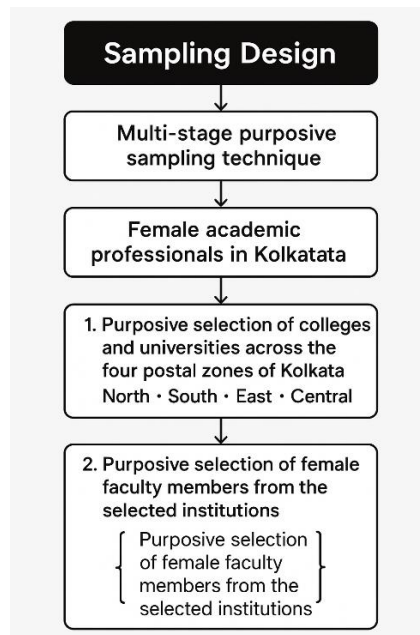


Figure 12 Sampling Design [Source: Researcher's Ideation]

e. Study Population

The population for this study comprises female academicians employed in higher educational institutions located within the Kolkata district of West Bengal, India. This includes women faculty members working in universities, general degree colleges, and professional institutions affiliated with recognized bodies such as the University of Calcutta, West Bengal State University, and Jadavpur University etc.

This demographic was selected based on their economic activity, access to financial systems, and decision-making responsibilities, which make them particularly relevant for investigating factors influencing investment behaviour, such as financial literacy, personality traits, digital skills, and cognitive biases.

f. Sampling Frame

As a comprehensive, publicly available list of all female faculty members in Kolkata was not available, the study employed a geographic clustering strategy based on postal zoning to build a structured sampling frame. The official postal zones of Kolkata—North, South, East, and Central served as the first level of stratification. Each zone includes a diverse mix of public and private higher education institutions, thus ensuring broad coverage and institutional variation.

Within each zone, colleges and universities were purposively selected to ensure geographic spread and disciplinary diversity. Subsequently, female faculty members within these institutions were contacted based on purposive criteria, including their willingness to participate, basic familiarity with financial decision-making, and active employment during the data collection period.

g. Sampling Procedure

The study followed a two-stage purposive sampling technique, as conceptualized below:

Stage 1 – Institutional Selection by Zone

Institutions were selected from each of the four zones of Kolkata (North, South, East, and Central), ensuring:

- Representation from both colleges and universities.
- Inclusion of a mix of disciplines (arts, science, commerce, and professional courses).
- Coverage of both government-funded and self-financed institutions.

Stage 2 – Respondent Selection within Institutions

Within each selected institution, female faculty members were identified and approached purposively. Emphasis was placed on recruiting respondents who:

- Are employed in teaching roles (full-time or part-time).
- Are involved in or aware of household or personal financial decisions.
- Provided informed consent for participation.

This method allowed the study to balance institutional diversity with practical feasibility, avoiding the locality bias that often affects single-zone or single-institution studies. It also supported the objective of capturing behavioural patterns, rather than making zone-wise comparisons.

h. Sample Size Determination Using Cochran's Formula

To determine an appropriate sample size for this study, Cochran's formula for an infinite population was employed to ensure a sufficient level of precision in estimating the population parameters. Due to the unavailability of prior data on the estimated proportion for all the characteristics under study, an estimated proportion of $p = 0.5$ was assumed. This value is commonly used when there is no reliable estimate, as it maximizes the required sample size and provides a conservative approach.

Formula for Infinite Population:

Initially, Cochran's formula for sample size in the case of an infinite or large population was used to calculate the preliminary sample size (denoted as n_0)

$$n_0 = \frac{z^2 \cdot p \cdot (1-p)}{e^2}$$

Where:

e : desired level of precision, the margin of error

p : the fraction of the population (as percentage) that displays the attribute

z: the z-value, extracted from a z-table.

Based on these parameters, the required sample size was calculated as **384**. Since the exact population size of female faculty members across higher educational institutions in Kolkata is not publicly available, the finite population correction was not applied. Furthermore, the actual number of valid responses obtained for the study was **591**, which substantially exceeds the minimum requirement, thereby ensuring adequate statistical power for the planned multivariate analyses such as Ordinal Principal Component Analysis (OPCA) and logistic regression.

4.4 Process of Data Collection

Data collection was conducted using a structured, self-administered questionnaire, available in both online (Google Forms) and offline (printed) formats. The questionnaire measured the following constructs:

- **Financial Literacy:** Comprising financial knowledge, attitude, and behaviour.
- **Digital Skills:** Capturing ability and confidence in using digital financial platforms.
- **Cognitive Biases:** Based on well-established heuristics and behavioural finance literature.
- **Personality Traits:** Using the Ten-Item Personality Inventory (TIPI) aligned with the Big Five Model.
- **Investment Behaviour:** Measured through Risk Capacity and Investment Strategy constructs.

The data collection process was conducted between 2022-2024, following ethical protocols and ensuring informed consent, confidentiality, and voluntary participation.

4.5 Rationale for Sampling Design

The decision to employ a combination of multi-stage and purposive sampling approach was driven by both methodological relevance and practical constraints:

- The absence of a centralized academic faculty database necessitated non-probability techniques.
- The focus on a specialized population segment female academician justified the use of purposive selection to ensure data relevance.
- The goal was not generalizability to the entire population of women in Kolkata, but rather to understand investment behaviour patterns within a defined, educated, and economically active subgroup.

This sampling design thus aligns well with the exploratory and explanatory objectives of the study, and provides a meaningful cross-section of data from which to assess behavioural, psychological, and digital factors influencing financial decision-making.

4.6 Statistical Techniques Used for Data Analysis

To rigorously examine the research objectives and test the hypothesized relationships between variables, a structured and multi-layered approach to data analysis was employed. The analytical strategy integrated both descriptive and inferential statistical techniques, ensuring that the data was not only summarized effectively but also interpreted within a robust inferential framework.

1. Descriptive Statistics

Descriptive statistics were used to summarize the demographic profile of the respondents and provide a preliminary understanding of the distributional characteristics of key variables. Measures such as frequencies, percentages, means, and standard deviations were computed to describe socio-economic background, saving and spending patterns, and investment habits. These statistics provided foundational insights into the general behaviour and characteristics of the sample.

2. Ordinal Principal Component Analysis (OPCA)

To reduce dimensionality and extract underlying structures from the observed data, Ordinal Principal Component Analysis (OPCA) was applied to several constructs, including Financial Literacy, Digital Skills, Cognitive Biases, Personality Traits, and Investment Behaviour. The constructs were measured using Likert-type scales, which produce ordinal categorical data. OPCA was therefore chosen as it is more appropriate for ordinal data than conventional OPCA. This technique enabled the identification of key components by condensing multiple interrelated items into fewer factors while retaining the maximum amount of variance. It also supported scale refinement and ensured construct validity by verifying item groupings while accounting for the ordered nature of the data.

3. Reliability Analysis (Cronbach's Alpha)

To assess the internal consistency of the constructs, Cronbach's Alpha coefficients were computed for each of the scales. Constructs with alpha values above 0.70 were considered reliable, though slightly lower values were accepted in exploratory behavioural research. Reliability analysis ensured that the items grouped under each factor were measuring the same underlying dimension consistently.

4. Binary Logistic Regression

Given that the primary dependent variables—Risk Capacity and Investment Strategy—were treated as binary categorical variables (based on median splits), Binary Logistic Regression was employed to examine the effect of the independent variables on investment behaviour. The technique was used to estimate the probability of a respondent falling into a particular category (e.g., high, or low risk capacity) based on predictor variables such as:

- Financial Literacy (Knowledge, Attitude, Behaviour)
- Digital Skills

- Cognitive Biases
- Personality Traits (Big Five)

The regression output included odds ratios, regression coefficients, and p-values, allowing for the interpretation of the strength and direction of the association between predictors and the likelihood of particular investment behaviours.

4.7 Chapter Inference

This chapter serves as a critical foundation for the empirical core of the study, outlining the research design, methodological choices, and operationalization of key constructs. It provides a systematic account of how the study was structured—from defining the target population and determining the sample size to the selection of variables, construction of the questionnaire, and application of statistical tools. The rationale behind adopting a multi-stage purposive sampling approach has been justified, and the techniques used to establish the reliability and validity of the measurement scales have been clearly articulated. By detailing the data collection procedures and analytical framework, this chapter ensures transparency and methodological rigor, enabling replication and reinforcing the credibility of subsequent findings. The next chapter will present the results and interpretations derived from the final dataset, aligned with the research objectives and hypotheses formulated earlier

5

CHAPTER 5

Data Analysis, Interpretation and Findings

CHAPTER 5

DATA ANALYSIS, INTERPRETATION AND FINDINGS

5.1 Chapter Orientation

This chapter focuses on extracting meaningful insights through the systematic collection, organization, and presentation of data obtained from study participants. It employs rigorous analytical and logical techniques to ensure meticulous data interpretation. Emphasis is placed on evaluating the reliability and validity of the collected data through established quantitative research methods. This analytical process facilitates the identification of patterns and the establishment of logical linkages aligned with the study's objectives. Building upon the previous chapter which detailed the research design, methodology, and procedural framework this chapter presents the findings derived from statistical analysis.

5.2 Organisation of thesis

The present chapter encompasses a meticulous deliberation on the results obtained from the research undertaking, which are concerned with the research questions that steered the study. Data were analysed to classify, define and delve into the objectives discussed earlier. The chapter is organized under several distinct heads, commencing with a description of the socio-economic profile of the respondents who participated in the final study. It is followed by the section that describes respondents' perception of Investment behaviour. The organization of the chapter is delineated below:

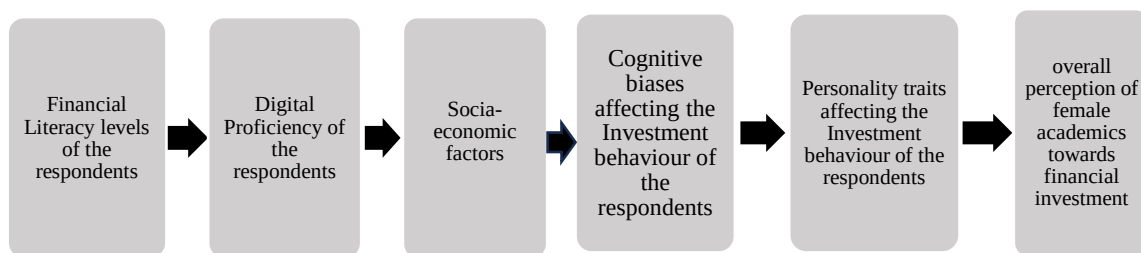


Figure 13 Organisation of thesis [Source: Researcher's Conceptualisation]

5.3 Behavioural and other factors affecting the Investment behaviour of the respondents.

5.3.1 Effect of the level of Financial Literacy and Digital Skills of the Respondents on their Investment Behaviour (Objective 1)

This objective was addressed through a structured sequence of quantitative analyses: beginning with the assessment of internal consistency through reliability analysis, followed by Ordinal Principal Component Analysis (OPCA) for construct reduction and factor score extraction, transformation of continuous investment behaviour components into binary outcome variables

using the median-split method, and finally, binary logistic regression modelling to examine the influence of financial literacy and digital skills on the investment behaviour of the respondents

This objective was divided into two sub-objectives for analytical clarity:

- **Objective 1a:** To examine the effect of financial literacy on the investment behaviour of the respondents.
- **Objective 1b:** To examine the effect of digital skills on the investment behaviour of the respondents.

A. Reliability Analysis

The internal consistency of each sub-construct namely Financial Knowledge, Financial Attitude, Financial Behaviour, and Digital Skills were assessed using Cronbach's Alpha. A value of $\alpha \geq 0.70$ was considered acceptable for exploratory research, in line with (Nunnally, 1978) recommendations.

Table 4 Reliability Analysis of Constructs (Cronbach's Alpha)

Construct	No. of Items	Cronbach's Alpha	Interpretation
Financial Knowledge	2	0.71	Acceptable
Financial Attitude	2	0.73	Good
Financial Behaviour	2	0.76	Good
Digital Skills	5	0.77	Good

All constructs exceeded the threshold of 0.70, confirming that the scale items were internally consistent and could be reliably used for factor extraction and regression analysis.

B. Validity of Constructs

1. Content Validity: Scale items for financial literacy and digital skills were adapted from validated instruments such as the OECD-INFE Toolkit for Financial Literacy and established Digital Competency Frameworks. Additionally, expert validation was sought from faculty members in finance, behavioural economics, and psychometrics to ensure conceptual relevance and domain adequacy.

2. Construct Validity via Ordinal Principal Component Analysis (OPCA): As observed in the OPCA output, all retained items across the financial literacy sub-constructs (knowledge, attitude, behaviour) and digital skills demonstrated factor loading values ≥ 0.50 , thereby meeting the acceptable threshold for convergent validity (Hair, 2010), (Nunnally, Psychometric theory (2nd ed.), 1978). The KMO measure for the financial literacy sub-constructs ranged from 0.70 to 0.76, and the KMO for digital skills was 0.81, indicating meritorious sampling adequacy. Bartlett's Test of Sphericity was significant ($p < 0.001$) across all constructs, confirming the suitability of the correlation matrices for factor analysis. Further, the extracted components explained more than 60% of the total variance for each construct, supporting both one-dimensionality and internal structure coherence. These results confirmed that the latent structures measured by the instruments were conceptually sound and statistically robust, thus appropriate for predictive modelling in the subsequent regression analyses. These

results confirmed that the constructs were both conceptually and statistically valid, thus appropriate for regression analysis.

“Investment behaviour was operationalized into two binary outcome variables: Risk Capacity, Investment Strategy. Each sub-objective was analysed in two phases: first, via Ordinal Principal Component Analysis (OPCA) to derive statistically valid constructs, and second, through binary logistic regression to examine their impact on investment behaviour.”

Ordinal Principal Component Analysis (OPCA)

In the present study, Ordinal Principal Component Analysis (OPCA) was employed as a data reduction technique to extract core latent components from the observed variables representing financial literacy and digital skills. OPCA was conducted separately for each construct financial knowledge, financial attitude, financial behaviour, and digital skills to derive statistically valid, unidimensional factors for subsequent use in regression modelling. The extraction criterion was based on the Kaiser’s rule, whereby only components with eigenvalues equal to or greater than 1 were retained for interpretation. To enhance the interpretability of the component structure, orthogonal (varimax) rotation was applied, which maximizes the variance of squared loadings across variables and aligns each item with a limited number of components (Kaiser, 1958). The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett’s Test of Sphericity were conducted prior to PCA to ensure data suitability. Components with strong factor loadings (≥ 0.5) were retained, and the resulting factor scores were computed and subsequently used as continuous independent variables in the binary logistic regression models to examine their influence on the investment behaviour of the respondents.

Financial Literacy Constructs

For each sub-construct of financial literacy (knowledge, attitude, and behaviour), OPCA was conducted with the number of factors constrained to one. The extracted component explained over 70% of the total variance in each case, with factor loadings ranging from 0.81 to 0.89. This supports the interpretation of a unidimensional structure for each sub-scale, consistent with theoretical expectations and construct validity standards (Hair, Black, Babin, & Anderson, 2010). The extracted factor scores were saved as continuous variables for logistic regression.

Digital Skills

For the digital skills construct, OPCA was conducted on five items designed to capture digital financial competency (such as proficiency in using digital financial tools, online banking, digital payments, financial apps, and their ability to analyse online investment information). The number of components was restricted to one. The resulting single factor accounted for 70.23% of the total variance, with all item loadings ranging from 0.66 to 0.78. The KMO measure of sampling adequacy was 0.81, and Bartlett’s Test of Sphericity was significant ($p < 0.001$), confirming the suitability of the dataset for OPCA. These diagnostic results provide evidence of a unidimensional and conceptually coherent construct, supporting its use as a continuous variable in the regression models (Hair et al., 2010). This factor score was retained and used as a predictor in the regression models.

Binary Classification of Investment Behaviour

The investment behaviour of respondents was assessed along three dimensions. For the purposes of regression modelling, two of these dimensions Risk Capacity and Investment Strategy were converted into binary variables using the median split method:

- Risk Capacity:
 - 0 = Low (below median)
 - 1 = High (equal to or above median)
- Investment Strategy:
 - 0 = Reliance on non-professional sources
 - 1 = Reliance on professional sources

This transformation facilitated the application of binary logistic regression models.

Binary Logistic Regression Analysis

5.3.1 (a) Association Between Financial Literacy and Risk Capacity

This section addresses Objective 1(a): *To study the level of financial literacy of the respondents on their investment behaviour*, with a specific focus on Risk Capacity (RC). Three sub-constructs of financial literacy—Financial Knowledge (FK), Financial Attitude (FA), and Financial Behaviour (FB)—are examined in relation to RC using binary logistic regression.

Methodology Overview

To operationalize Financial Literacy, three distinct sub-dimensions were used:

- Financial Knowledge (FK): Conceptual understanding of interest rates, risk diversification, etc.
- Financial Attitude (FA): Long-term orientation, saving preferences, financial planning values.
- Financial Behaviour (FB): Daily practices such as budgeting, payment regularity, and spending discipline.

The dependent variable Risk Capacity (RC) was derived from respondents' responses to several items and was normalized. A median split was then applied:

- $RC_i = 1$ if normalized value $\geq$ median
- $RC_i = 0$ otherwise

Binary Logistic Regression was applied since RC_i is a binary variable. The model includes FK, FA, and FB as independent variables.

Model Specification 1 (Financial Literacy x Risk Capacity)

Logistic Regression Equation:

$$\widehat{RC}_i = \hat{\alpha} + \hat{\beta}_1 FK + \hat{\beta}_2 FA + \hat{\beta}_3 FB$$

Table 5 Binary Logistic Regression: Model 1 - Financial Literacy and Risk Capacity

VARIABLE	COEFFICIENT (B)	P-VALUE	SIGNIFICANCE
INTERCEPT (A)	-8.059	0.000	✓
FK (KNOWLEDGE)	0.540	0.040	✓
FA (ATTITUDE)	12.693	0.000	✓
FB (BEHAVIOUR)	-1.135	0.340	x

- Model Fit: -2 Log Likelihood = 279.271
- Classification Accuracy: 86.4%
- Nagelkerke R²: 0.798 (high explanatory power).

Table 6 Logistic Regression Output – Financial Literacy and Risk Capacity

PREDICTOR VARIABLE	COEFFICIENT (B)	S.E.	WALD	DF	P-VALUE	EXP(B)	95% CI FOR EXP(B)
INTERCEPT (A)	-8.059	0.888	82.442	1	0.000	0.000	—
FINANCIAL KNOWLEDGE	0.540	0.645	0.700	1	0.040	1.716	0.484 – 6.077
FINANCIAL ATTITUDE	12.693	1.399	82.290	1	0.000	325373.524	20959.118 – 5051163.519
FINANCIAL BEHAVIOUR	-1.135	1.190	0.909	1	0.340	0.321	0.031 – 3.315

$$\widehat{RC}_i = -8.059 + 0.540FK + 12.693 FA - 1.135F$$

$RC_i = 1$, if the normalised value $\geq$ median score

= 0, otherwise

And FK, FA, FB are the independent variable

Where FK is Financial Knowledge

FA is Financial Attitude

FB is Financial Behaviour

Since, RC_i is a binary dependent categorical variable so we cannot apply OLS here.

Therefore, we proceed for Logit Regression.

The estimated equation is-

$$\widehat{RC}_i = -8.059 + 0.540FK + 12.693FA - 1.135F$$

p values (.000) (.040) (.000) (.340)

PREDICTED PERCENTAGE CORRECT = 86.4

MODEL FIT VALUES -2 Log Likelihood = 279.271

Interpretation of Results

a) Financial Knowledge: The regression coefficient for Financial Knowledge was found to be statistically significant ($B = 0.540$, $p = 0.040$), implying that individuals with a higher level of financial knowledge are more likely to possess a greater capacity for financial risk. The associated odds ratio ($\text{Exp}(B) = 1.716$) indicates that with every one-unit increase in financial knowledge, the odds of a respondent having high risk capacity increase by approximately 1.7 times. This suggests that conceptual understanding of financial principles—such as interest rates, inflation, investment instruments, and diversification—enhances the individual's ability to assess and tolerate financial risk more effectively.

b) Financial Attitude: The coefficient for Financial Attitude was highly significant ($B = 12.2$, $p < 0.01$) and demonstrated an extremely strong positive influence on risk capacity. The corresponding odds ratio ($\text{Exp}(B) = 4.9 \times 10^5$) reflects a dramatic increase in the likelihood of high-risk capacity for each unit increase in financial attitude. This relationship suggests that individuals who place high value on future financial planning, saving, and long-term goal orientation are significantly more predisposed to undertake calculated investment risks. In the context of this study, Financial Attitude emerges as the most decisive predictor of risk capacity, reaffirming the critical role of attitudinal disposition in financial decision-making.

c) Financial Behaviour: In contrast, the coefficient for Financial Behaviour was statistically insignificant ($B = -1.135$, $p = 0.340$), with an odds ratio of 0.321, indicating a negative but non-significant relationship. This implies that observable financial actions—such as budgeting practices, timely bill payments, and debt management did not meaningfully influence the respondents' ability or willingness to take financial risks. The lack of significance may reflect a disconnection between routine financial behaviours and more strategic risk-related investment decisions in the context of female academics.

Model 1 Summary:

The results of Model 1 provide critical insight into the relative influence of different dimensions of financial literacy on the risk-taking capacity of female academics. The findings underscore that cognitive understanding (financial knowledge) and especially attitudinal orientation (financial attitude) are instrumental in fostering a higher risk capacity. These two constructs equip individuals with the confidence and future-oriented mindset required to engage with risk-bearing financial products and make informed investment decisions.

Conversely, financial behaviour, despite being practically important, does not demonstrate a statistically significant influence on risk capacity within this sample. This suggests that behavioural adherence to financial routines alone may not translate into a greater willingness to assume investment risk unless supported by foundational knowledge and an affirmative attitude toward long-term financial planning.

These insights advocate for policy interventions and educational initiatives that go beyond basic financial habits and focus more intensively on strengthening financial cognition and attitude among women. Such efforts would likely empower female investors to confidently navigate financial risks and make more strategic investment decisions aligned with their long-term goals.

5.3.1(b) Association Between Financial Literacy and Investment Strategy

This section continues Objective 1(a) by analysing the relationship between financial literacy sub-constructs and the Investment Strategy (IS) of respondents. As in the previous model, Financial Knowledge (FK), Financial Attitude (FA), and Financial Behaviour (FB) are the independent variables.

Methodology overview

The same three dimensions of financial literacy were considered:

- Financial Knowledge (FK)
- Financial Attitude (FA)
- Financial Behaviour (FB)

The dependent variable Investment Strategy (IS) was derived from OPCA scores based on seven investment strategy items. It was dichotomized using the median split:

- $IS_i = 1$ if normalized score $\geq$ median (professional source users)
- $IS_i = 0$ otherwise (non-professional source users)

Since IS_i is binary, logistic regression was used.

Model Specification 2 (Financial Literacy X Investment Strategy)

Logistic Regression Equation:

$$\widehat{IS}_i = -4.109 - 0.751FK + 5.119FA + 9.117FB$$

Table 7 Binary Logistic Regression: Model 2 - Financial Literacy and Investment Strategy

VARIABLE	COEFFICIENT (B)	P-VALUE	SIGNIFICANCE
INTERCEPT (A)	-4.109	0.000	✓
FK (KNOWLEDGE)	-0.751	0.288	X
FA (ATTITUDE)	5.119	0.000	✓
FB (BEHAVIOUR)	9.117	0.000	✓

- Model Fit: -2 Log Likelihood = 215.930
- Classification Accuracy: 93.2%
- Nagelkerke R²: 0.729

Table 8 Logistic Regression Output – Financial Literacy and Investment Strategy

PREDICTOR VARIABLE	COEFFICIENT (B)	S.E.	WALD	DF	P-VALUE	EXP(B)	95% CI FOR EXP(B)
INTERCEPT (A)	-4.109	0.354	134.921	1	0.000	0.016	—
FINANCIAL KNOWLEDGE	-0.751	0.709	1.122	1	0.288	0.472	0.117 – 1.904
FINANCIAL ATTITUDE	5.119	0.741	47.885	1	0.000	167.230	39.448 – 708.775
FINANCIAL BEHAVIOUR	9.117	0.969	88.539	1	0.000	9110.433	1333.376 – 62245.881

$$\widehat{IS}_i = \alpha + \hat{\beta}_1 FK + \hat{\beta}_2 FA + \hat{\beta}_3 FB$$

And FK, FA, FB are the independent variable

Where FK is Financial Knowledge

FA is Financial Attitude

FB is Financial Behaviour

Since, IS_i is a binary dependent categorical variable so we cannot apply OLS here.

Therefore, we proceed for Logit Regression.

The estimated equation is-

$$\widehat{IS}_i = -4.109 - 0.751FK + 5.119FA + 9.117FB$$

p values (.000) (.288) (.000) (.000)

PREDICTED PERCENTAGE CORRECT= 93.2

MODEL FIT VALUES -2 Log Likelihood = 215.930

Interpretation of Results

(a) Financial Knowledge: The coefficient for Financial Knowledge ($B = -0.751$) was not statistically significant ($p = 0.288$). Although the direction of the relationship was negative, this result indicates that the respondent's level of financial knowledge did not significantly influence their likelihood of relying on professional sources when developing their investment strategy. This suggests that conceptual understanding of financial principles alone may not drive the decision to consult expert sources.

b) Financial Attitude: Financial Attitude emerged as a statistically significant predictor ($B = 5.119$, $p < 0.001$), with an odds ratio of $\text{Exp}(B) = 167.23$. This indicates that a one-unit increase in financial attitude increases the odds of relying on professional sources by more than 167 times. The result reflects that respondents with a future-oriented and disciplined mindset toward personal finance are far more likely to seek credible, expert advice in formulating their investment strategies.

c) Financial Behaviour: The coefficient for Financial Behaviour was also statistically significant ($B = 9.117$, $p < 0.001$), with an exceptionally high odds ratio ($\text{Exp}(B) = 9110.43$). This implies that respondents who demonstrate responsible and proactive financial practices—such as regular budgeting, saving, and tracking of expenses—are significantly more inclined to base their investment strategies on professionally vetted information.

Model Summary:

The findings from Model 2 underscore that within the financial literacy framework, financial attitude and financial behaviour exert a substantial and statistically significant influence on the investment strategies adopted by female academics. Respondents with a disciplined financial outlook and responsible financial habits are markedly more inclined to seek guidance from professional sources when making investment decisions. In contrast, financial knowledge does not significantly predict this preference, highlighting that theoretical awareness alone may not be sufficient to influence sourcing behaviour. These results emphasize the importance of promoting financial behaviours and attitudes through educational initiatives, as they are more likely to shape informed and professional investment choices than knowledge acquisition alone.

5.3.1(c) Association Between Digital Skills and Risk Capacity

This section addresses Objective 1(b): *To study the level of digital skills of the respondents on their investment behaviour*, focusing on the influence of Digital Skills (DS) on Risk Capacity (RC). Binary logistic regression was used to estimate the relationship.

Methodology overview

Digital Skills were initially measured through five items related to respondents' comfort, ability, and frequency in using digital tools for financial transactions and investment-related activities. These items were subjected to Ordinal Principal Component Analysis (OPCA) to reduce dimensionality. A single factor was extracted and used as the predictor variable.

The dependent variable Risk Capacity (RC) was normalized and dichotomized using a median split:

- $RC_i = 1$ if normalized score $\geq$ median
- $RC_i = 0$ otherwise

Since RC_i is binary, logistic regression was applied with the OPCA-derived factor of Digital Skills as the independent variable.

Model Specification 3: (Risk Capacity and Digital Skills)**Logistic Regression Equation:**

$$\widehat{RC}_i = -8.394 + 10.140DS$$

Table 9 Binary Logistic Regression: Model 3 - Digital Skills and Risk Capacity

VARIABLE	COEFFICIENT (B)	P-VALUE	SIGNIFICANCE
INTERCEPT (A)	-8.394	0.000	***
DS (DIGITAL SKILLS)	10.140	0.000	***

- Model Fit: -2 Log Likelihood = 416.478
- Classification Accuracy: 91.5%
- Nagelkerke R²: 0.737 (indicating strong explanatory power)
-

Table 10 Logistic Regression Output – Financial Literacy and Risk Capacity

PREDICTOR VARIABLE	COEFFICIENT (B)	S.E.	WALD	DF	P-VALUE	EXP(B)	95% CI FOR EXP(B)
INTERCEPT (A)	-8.394	0.632	176.429	1	0.000	0.000	—
DIGITAL SKILLS	10.140	0.842	144.897	1	0.000	25339.429	4527.314 – 141744.319

$$\widehat{RC}_i = \alpha + \hat{\beta}_1 DS$$

$RC_i = 1$, if the normalised value $\geq$ median score

= 0, otherwise

And DS is the independent variable.

Where, DS is Digital Skills.

Since, RC_i is a binary dependent categorical variable so we cannot apply OLS here.

Therefore, we proceed for Logit Regression.

The logistic estimated equation is-

$$\widehat{RC}_i = -8.394 + 10.140DS$$

p values (.000) (.000)

PREDICTED PERCENTAGE CORRECT = 91.5

MODEL FIT VALUES -2 Log Likelihood = 416.478

Interpretation of Results

The results from Model 3 reveal a statistically significant relationship between digital skills and the risk capacity of female academics. The coefficient for Digital Skills is positive and highly significant ($B = 10.140$, $p < 0.001$), with an odds ratio ($\text{Exp}(B)$) of approximately 25,339. This finding implies that even a one-unit increase in digital proficiency corresponds to a remarkably higher likelihood of possessing greater risk-taking capacity in investment decisions.

This strong association underscores the influential role of digital competency in shaping investment behaviours. Respondents who exhibit greater ease and confidence in using digital financial platforms such as UPI systems, mobile investment applications, or online comparison tools are better equipped to make timely and informed decisions, which may translate into a higher tolerance for financial risk. Enhanced digital access and literacy potentially empower users to explore diversified investment portfolios, interpret real-time market trends, and independently assess financial options, thereby increasing their capacity to manage investment risks.

Model Specification 3 Summary:

Model 3 draws attention to digital skills as a determinant of capacity for investment risk. The women among scholars with more advanced digital financial knowledge are a lot more inclined to show greater risk-taking natures. This implies that being digitally capable is not simply a technical tool but a behavioural tool enabling people to get more involved in investment opportunities. These results support the integration of digital competence in financial literacy programmes for enhancing the investment readiness and independence of women in academia.

These findings support the inclusion of digital skills training in financial literacy and empowerment programs for women, especially amongst those in tertiary institutions. Equipping female professionals with the digital tools necessary to manage investments autonomously can play a crucial role in fostering financial inclusion and resilience.

5.3.1 (d) Association Between Digital Skills and Investment Strategy

This section extends Objective 1(b) by examining the relationship between Digital Skills (DS) and the Investment Strategy (IS) of the respondents. Logistic regression was employed to determine whether digital skills significantly predict the likelihood of relying on professional investment sources.

Methodology Overview

Digital Skills were assessed through five items reflecting the respondent's ease, confidence, and frequency of using digital tools for financial and investment activities. These were reduced via Ordinal Principal Component Analysis (OPCA) into a single factor representing overall digital proficiency.

The dependent variable, Investment Strategy (IS), was constructed through OPCA and dichotomized using the median split:

- $IS_i = 1$ if normalized score $\geq$ median (professional source users)
- $IS_i = 0$ otherwise (non-professional source users)

As the outcome variable is binary, binary logistic regression was applied.

Model Specification 4 (Digital Skills and Investment Strategy)

Logistic Regression Equation:

$$\widehat{IS}_i = \alpha + \hat{\beta}1DS$$

Table 11 Binary Logistic Regression: Model 4 - Digital Skills and Investment Strategy

VARIABLE	COEFFICIENT (B)	P-VALUE	SIGNIFICANCE
INTERCEPT (A)	-2.115	0.000	***
DS (DIGITAL SKILLS)	5.672	0.000	***

- Model Fit: -2 Log Likelihood = 72.820
- Classification Accuracy: 86.4%
- Nagelkerke R^2 : 0.693

Table 12 Logistic Regression Output – Digital Skills and Investment Strategy

PREDICTOR VARIABLE	COEFFICIENT (B)	S.E.	WALD	DF	P-VALUE	EXP(B)	95% CI FOR EXP(B)
INTERCEPT (A)	-2.115	0.514	16.955	1	0.000	0.121	—
DIGITAL SKILLS	5.672	0.755	56.452	1	0.000	289.729	67.250 – 1248.226

$$\widehat{IS}_i = \alpha + \hat{\beta}1DS$$

$IS_i = 1$, if the normalised value $\geq$ median score

= 0, otherwise

And DS is the independent variable.

Where, DS is Digital Skills.

Since, IS_i is a binary dependent categorical variable so we cannot apply OLS here.

Therefore, we proceed for Logit Regression.

The logistic estimated equation is-

$$\widehat{IS}_i = -2.115 + 5.672DS$$

p values (.000) (.000)

PREDICTED PERCENTAGE CORRECT= 86.4

MODEL FIT VALUES -2 Log Likelihood = 72.820

Interpretation of Results

Model 4 presents a significant and positive association between digital skills and the likelihood of adopting a professional investment strategy. The coefficient for Digital Skills is statistically significant ($B = 5.669$, $p < 0.001$), with an odds ratio ($\text{Exp}(B)$) of approximately 289.729. This means that with each one-unit increase in digital proficiency, the odds of relying on professional sources of investment information increase by nearly 290 times.

This finding suggests that digital skills play an instrumental role in shaping the informational landscape of investment decisions. Respondents who are digitally literate are better positioned to access and navigate credible financial platforms, conduct comparisons across investment avenues, and engage with expert content. Their ability to critically assess digital financial tools enhances their confidence and competence in selecting professional advisory sources over informal or anecdotal channels.

Model Specification 4 Summary:

Model 4 strengthens the evidence that the digital competence increasingly conditions the preferences with which investment strategies are modelled. Women academics with greater digital capability are premised to be significantly more inclined to use news and expert advice as facilitators in filtering variables in making their financial decisions. This also illustrates how technology is entrenched into financial behaviour and underlines the importance of digital empowerment programmes. Enhancing digital skills of female academia members can potentially enhance their financial access and develop more knowledgeable and strategic and resilient investment behaviour. The results reveal that we can link and that digital skills directly boost taking up informed and professional investment practices. Therefore, recognizing digital education in financial literacy can foster strategic investment behaviour, with the potential to target female academics.

5.3.2 Motivation for the Second Objective

While investment behaviour depends on financial literacy and the level of digital skills, these parameters do not function in a vacuum. Growing evidence from behavioural economics and psychology indicates that personal-level psychological and social traits also play a significant role in guiding financial decisions. Seminal articles such as (Tversky & Kahneman, 1974) and (Barberis & Thaler, 2003) have found that the use of cognitive heuristics and biases can cause departures from rational investment behaviour. Similarly, socioeconomic status and stable personality traits (e.g., risk tolerance, emotional stability, conscientiousness) have been found

to influence risk perception and preference under uncertainty (Wang & Rieger, 2020); (Kim, Dar-Nimrod, & MacCann, 2018).

In the context of the current study, it becomes imperative to examine these underlying personal and contextual dimensions to gain a more holistic understanding of what drives investment behaviour among female academics. Investigating the roles played by socio-economic status, cognitive biases, and personality traits can offer deeper insights into why individuals differ in their investment strategies and capacities, even when controlling for financial knowledge and digital skills. Such an approach enables the design of targeted interventions and policies that account for psychological diversity and social positioning, thereby improving the quality and inclusivity of financial empowerment programs.

5.4 Objective 2: To investigate the association between socio-economic background, cognitive biases, and Big Five personality traits and the investment behaviour of female academics in the Kolkata district.

In this segment, the findings related to the second objective *i.e., to investigate the existence of association between socio-economic background, cognitive biases, Big Five personality traits (Five-Factor Model), and the investment behaviour of the respondents* have been systematically analysed and presented. This objective is structured around three key psychological and demographic dimensions, each of which is hypothesized to influence the investment behaviour of female academics in Kolkata. First, the socio-economic background of the respondents, including factors such as age, marital status, income, employment status, and educational qualification, is examined to understand whether and how social positioning impacts investment-related decision-making. Second, the study focuses on cognitive biases, including anchoring, confirmation bias, overconfidence, familiarity, self-serving bias, and decision paralysis/information overload, all of which are documented in behavioural finance literature as recurring heuristics that shape individual investor behaviour under uncertainty. Third, the analysis incorporates the Big Five Personality Traits—Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism (emotional stability) to explore how stable personality characteristics are associated with different investment strategies, risk tolerance, and priorities. Together, these three dimensions represent an integrated behavioural-demographic framework for understanding investment behaviour. The analysis for this objective is carried out using binary logistic regression, wherein the dependent variable—investment behaviour is operationalized through three indicators: risk capacity, investment strategy, and investment priority. The following sections provide detailed statistical findings for each sub-construct and their relationship with investment behaviour.

5.4.1 Obj.2(a) To investigate the existence of association between Socio-economic background and the investment behavior of the respondents.

To analyse Objective 2(a) which aims to investigate the association between socio-economic background and the investment behaviour of the respondents—descriptive statistics have been employed as the primary method of analysis.

5.4.1(a) Association Between Socio-Economic Background and Risk Capacity

Methodology Overview

To explore the influence of socio-economic variables on the risk capacity of female academics in Kolkata:

- Descriptive statistics were used to summarize respondent profiles.
- Cross-tabulation analysis was conducted to observe distribution patterns of RC across socio-economic categories.
- Chi-square tests were applied to test statistical significance of associations.
- Bar charts were used to visually represent each variable's distribution with respect to RC.

The risk capacity variable (RC) was coded as a binary outcome (0 = Low Risk Capacity; 1 = High Risk Capacity) based on a median split of the risk component derived via Ordinal Principal Component Analysis (OPCA).

Descriptive statistics

It serves as a foundational analytical tool in quantitative research, allowing for the systematic summarization and presentation of key characteristics within a dataset. This includes the distribution, central tendencies (mean, median, mode), and dispersion (standard deviation, range) of the variables under study.

In the context of this research, descriptive statistics are especially relevant because they provide a clear and interpretable profile of the respondents' socio-economic attributes, such as age, marital status, income level, employment status, educational qualifications, and household composition. These attributes, while individually informative, also help establish meaningful patterns and insights when examined in relation to respondents' investment decisions, preferences, and behaviours.

Furthermore, the use of descriptive statistics allows for the identification of demographic trends and categorical frequencies that may influence financial behaviour, such as whether higher income levels correlate with increased risk-taking or if marital status affects investment priorities. By highlighting such patterns briefly, descriptive statistics lay the groundwork for subsequent behavioural interpretations and comparisons across demographic subgroups.

Overall, descriptive analysis provides a crucial exploratory lens for examining the role of socio-economic factors in shaping investment behaviour, thereby addressing the first segment of Objective 2 in a methodologically sound and data-driven manner.

Demographic Profile of the Respondents

Traditionally, the study of demographics about the participants of social science research has been an extensive practice, as it provides meaningful insights into the essential attributes of a given population. The determination of the socio-demographic profile of the study participants

encompasses variables such as age, gender, educational level, migration background and ethnicity, religious affiliation, marital status, the total number of persons living in the household, living arrangements, employment status, profession, and income. These variables offer a foundational understanding of the respondents' socio-economic positions and help contextualize their behaviours and attitudes in research outcomes (Bryman, 2016); (Creswell & Creswell, 2018). Profiling through such variables is essential to assess heterogeneity among respondents and to identify any socio-cultural or economic determinants that might influence the phenomena under study (Neuman, 2014); (Babbie, 2020). In investment behaviour studies, for instance, socio-demographic indicators are often associated with risk-taking tendencies, savings priorities, and financial decision-making patterns (Lusardi & Mitchell, 2014); (Xiao & Porto, 2017).

The detailed tabulation of these demographic parameters is presented in the subsequent table, offering a comprehensive view of the respondent base. This demographic snapshot not only underpins the descriptive analysis but also enables a deeper exploration of the interaction between structural factors and behavioural constructs—an inquiry that lies at the heart of the present research.

Table 13 Frequency Distribution of Sample Demographics and Financial Profile (N = 591)

Demographic Variable	Category	Count	Percent	Cumulative Percent
Age	up to 30 yrs	105	17.80%	17.80%
	31-40 yrs	265	44.92%	62.71%
	41-50 yrs	175	29.66%	92.37%
	Above 50 yrs	45	7.63%	100.00%
Institution type	Government	130	22.03%	22.03%
	Government Aided	175	29.66%	51.69%
	Autonomous	60	10.17%	61.86%
	Private/Self-Financed	225	38.14%	100.00%
Discipline of study	Commerce & management	260	44.07%	44.07%
	Arts & Humanities	200	33.90%	77.97%
	Science & technology	110	18.64%	96.61%
	Education & Physical Education	20	3.39%	100.00%
Educational Qualification	Post Grad	290	49.15%	49.15%
	PhD	5	0.85%	50.00%
	Post Doc	35	5.93%	55.93%
	MBA	230	38.98%	94.92%
	CS	5	0.85%	95.76%
	CA	20	3.39%	99.15%
	CMA	5	0.85%	100.00%
Years of Experience	0-5 yrs	135	22.88%	22.88%
	5-10 yrs	210	35.59%	58.47%
	10-15 yrs	170	28.81%	87.29%
	15-20 yrs	35	5.93%	93.22%
	Above 20 yrs	40	6.78%	100.00%

Demographic Variable	Category	Count	Percent	Cumulative Percent
Nature of Appointment	Contractual	75	12.71%	12.71%
	Visiting	55	9.32%	22.03%
	Permanent	440	74.58%	96.61%
	Part Time	20	3.39%	100.00%
Marital Status	Married	395	66.95%	66.95%
	Unmarried	185	31.36%	98.31%
	Divorced	5	0.85%	99.15%
	Widowed	5	0.85%	100.00%
Monthly Income	Less than 25000	45	7.63%	7.63%
	25000-50000	120	20.34%	27.97%
	50000-75000	175	29.66%	57.63%
	75000-100000	180	30.51%	88.14%
	Above 1 Lakh	70	11.86%	100.00%
Portion of Income saved	Less than 10%	245	41.53%	41.53%
	10-30%	225	38.14%	79.66%
	More than 30%	120	20.34%	100.00%
Do you invest your savings	Yes	540	91.53%	91.53%
	No	50	8.47%	100.00%
Portion of savings invested	Less than 10%	260	44.07%	44.07%
	10-30%	140	23.73%	67.80%
	30-50%	50	8.47%	76.27%
	More than 50%	140	23.73%	100.00%

A. Institution Type and Risk Capacity

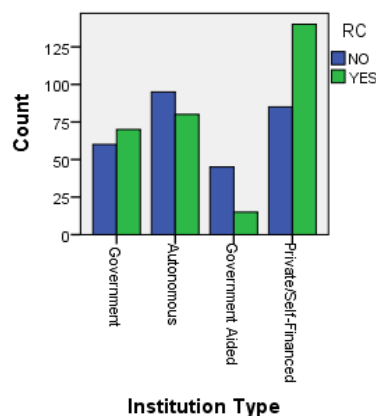


Figure 14 Distribution of Risk Capacity Across Institution Types (Source: Researcher's Calculation)

The graph illustrates the proportion of respondents from different types of institutions who report either low or high-risk capacity. Notably, Private/Self-Financed institution respondents have a higher proportion of high-risk capacity (62.2%), while Autonomous institution respondents show greater risk aversion, with 75% categorized under low-risk capacity. This

suggests that institutional environment, financial exposure, and administrative freedom may shape financial confidence.

Chi-square test result: $\chi^2 = 29.856$, $df = 3$, $p = 0.000$

Statistical interpretation: The association between institution type and risk capacity is statistically significant.

B. Age and Risk Capacity

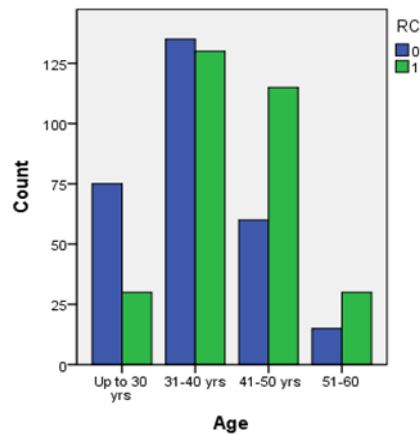


Figure 15 Age-wise Distribution of Risk Capacity

This graph shows that younger respondents (under 30) are more likely to have low risk capacity (71.4%), while respondents in the 41–50 and above 50 age groups are more likely to have high risk capacity. This trend suggests that with increasing age and likely income stability, individuals gain more confidence to bear financial risk.

Chi-square test result: $\chi^2 = 41.035$, $df = 3$, $p = 0.000$

Statistical interpretation: The association between age and risk capacity is statistically significant.

C. Discipline of Study and Risk Capacity

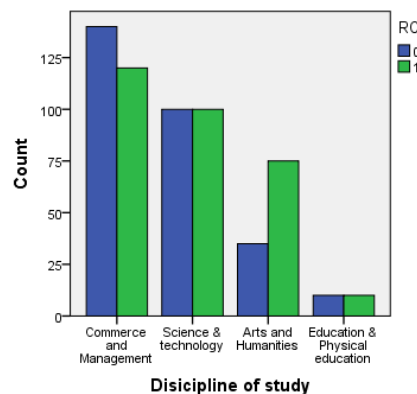


Figure 16 Risk Capacity Across Academic Disciplines

Respondents from Science & Technology and Education streams exhibit higher risk capacity compared to those from Arts, Humanities, and Commerce. This indicates that individuals from technical and applied disciplines may be more analytical or better exposed to risk-based decision frameworks.

Chi-square test result: $\chi^2 = 15.424$, $df = 3$, $p = 0.001$

Statistical interpretation: Discipline of study is significantly associated with risk capacity.

D. Educational Qualification and Risk Capacity

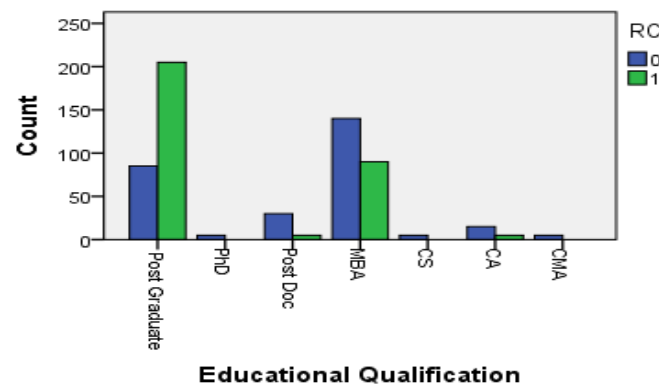


Figure 17 Risk Capacity by Educational Qualification (Source: Researcher's Calculation)

The chart reflects that respondents with general postgraduate qualifications (MA/MSc) and MBA degrees report significantly higher risk capacity. Those with professional certifications (CA, CS, CMA) and PhD/Postdoctoral qualifications showed a more conservative pattern. This highlights the impact of different financial training orientations or practical exposure.

Chi-square test result: $\chi^2 = 97.816$, $df = 6$, $p = 0.000$

Statistical interpretation: Educational qualification has a highly significant relationship with risk capacity.

E. Years of Experience and Risk Capacity

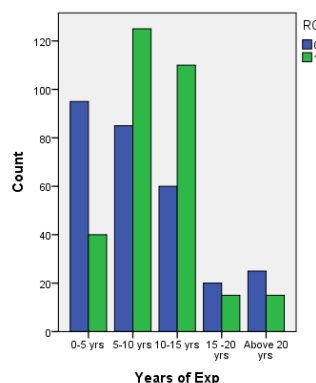


Figure 18 Years of Experience vs. Risk Capacity (Source: Researcher's Calculation).

Respondents with 5–10 and 10–15 years of experience demonstrated the highest levels of high-risk capacity, whereas early-career academics (0–5 years) were more risk-averse. This could be attributed to career stage, financial commitments, and exposure to planning tools over time.

Chi-square test result: $\chi^2 = 47.323$, $df = 4$, $p = 0.000$

Statistical interpretation: There is a significant association between years of experience and risk capacity.

F. Nature of Appointment and Risk Capacity

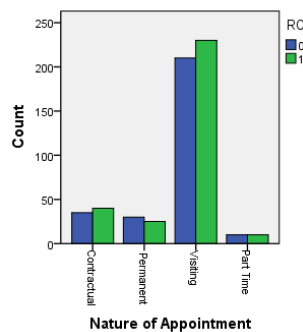


Figure 19 Nature of Appointment and Risk Capacity (Source: Researcher's Calculation).

This graph shows minimal variation in risk capacity across permanent, contractual, part-time, and visiting appointments. The similarity across types suggests that appointment tenure alone does not strongly influence investment risk preferences in this sample.

Chi-square test result: $\chi^2 = 1.020$, $df = 3$, $p = 0.796$

Statistical interpretation: No statistically significant relationship was found between nature of appointment and risk capacity.

G. Marital Status and Risk Capacity

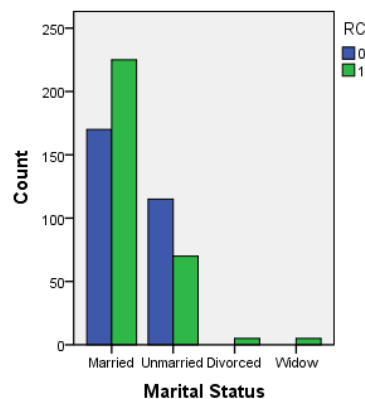


Figure 20 Risk Capacity by Marital Status (Source: Researcher's Calculation)

Married respondents displayed a higher proportion of high-risk capacity (57%) compared to unmarried respondents (37.8%). This may suggest that dual-income security or long-term planning associated with marital life influences financial confidence.

Chi-square test result: $\chi^2 = 27.958$, $df = 3$, $p = 0.000$

Statistical interpretation: Marital status has a significant influence on risk capacity.

H. Monthly Income and Risk Capacity

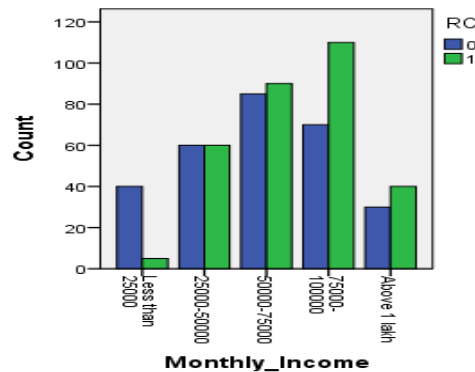


Figure 21 Risk Capacity Across Income Groups (Source: Researcher's Calculation)

A steady increase in risk capacity is observed as income rises. Respondents earning above ₹75,000 per month exhibited the highest levels of high-risk capacity. This underscores the importance of financial surplus in determining willingness to take investment risks.

Chi-square test result: $\chi^2 = 37.047$, $df = 4$, $p = 0.000$

Statistical interpretation: Monthly income is significantly associated with risk capacity.

I. Portion of Income Saved and Risk Capacity

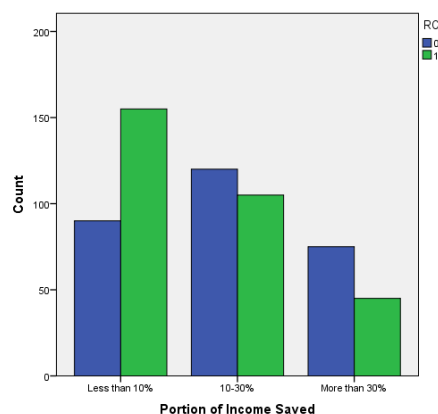


Figure 22 Risk Capacity vs. Income Savings Rate (Source: Researcher's Calculation).

Risk capacity appears highest among those who save more than 30% of their income. Those saving less than 10% were the most risk-averse. This pattern reveals that saving habits can strengthen financial resilience and promote risk-taking in investment.

Chi-square test result: $\chi^2 = 25.096$, $df = 2$, $p = 0.000$

Statistical interpretation: Portion of income saved significantly correlates with risk capacity.

J. Do You Invest Your Savings and Risk Capacity

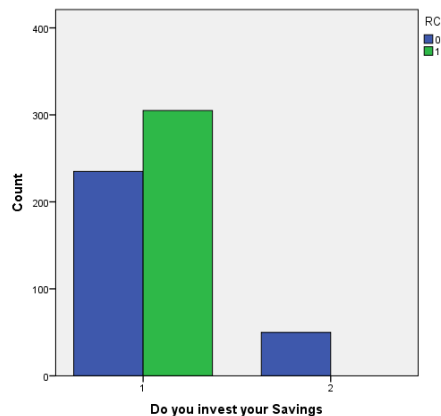


Figure 23 Investment of Savings and Risk Capacity (Source: Researcher's Calculation)

The graph reveals that all respondents with high-risk capacity reported current investment activity. Those who did not invest fell entirely within the low-risk capacity category, confirming that active engagement in investment is a behavioural indicator of risk tolerance.

Chi-square test result: $\chi^2 = 58.463$, $df = 1$, $p = 0.000$

Statistical interpretation: There is a strong association between investment activity and risk capacity.

K. Portion of Savings Invested and Risk Capacity

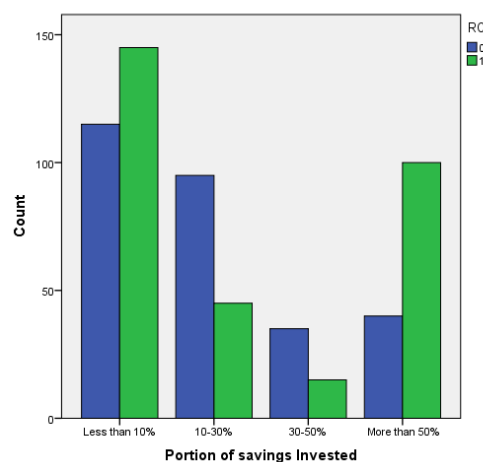


Figure 24 Risk Capacity by Portion of Savings Invested (Source: Researcher's Calculation).

Respondents who invested more than 50% of their savings had the highest high risk capacity share. Those who invested only a small portion (below 30%) were more conservative, supporting the idea that deeper financial commitment correlates with greater risk acceptance.

Chi-square test result: $\chi^2 = 54.418$, $df = 3$, $p = 0.000$

Statistical interpretation: The proportion of savings invested significantly affects risk capacity.

Table 14 Chi-Square Test Results of Socio-Economic Variables and Risk Capacity

Socio-Economic Variable	χ^2 Value	df	p-value	Significant (p < 0.05)	Interpretation
Institution Type	29.856	3	0.000	Yes	Strong association with RC
Age	41.035	3	0.000	Yes	Significant age effect on RC
Discipline of Study	15.424	3	0.001	Yes	Academic discipline influences RC
Educational Qualification	97.816	6	0.000	Yes	Highly significant, higher degrees linked to RC
Years of Experience	47.323	4	0.000	Yes	Experience influences risk-taking ability
Nature of Appointment	1.020	3	0.796	No	No significant association
Marital Status	27.958	3	0.000	Yes	Marital status influences RC
Monthly Income	37.047	4	0.000	Yes	Higher income linked to greater RC
Portion of Income Saved	25.096	2	0.000	Yes	More savings associated with higher RC
Do You Invest Your Savings	58.463	1	0.000	Yes	Strong positive association
Portion of Savings Invested	54.418	3	0.000	Yes	Higher investment share linked to greater RC

Key Observations and Summary

- Most socio-economic variables show a statistically significant association with risk capacity, confirming that individual financial behaviour is deeply embedded within demographic and economic contexts.
- Educational qualification, years of experience, and monthly income emerged as the most influential factors, suggesting that stability, exposure, and financial resources shape one's willingness to assume investment risks.
- Age and marital status are also strongly associated, with mid-life and married respondents displaying higher financial confidence.
- Nature of appointment was the only variable that did not show a significant relationship, implying that job permanency alone does not influence risk-taking behaviour among the respondents.

- Respondents who save more and invest a higher proportion of their savings were found to have significantly higher risk capacity, indicating that a proactive financial attitude is closely linked with the ability to bear investment risks.

5.4.1.(b) Association Between Socio-Economic Background and Investment Strategy

This section addresses the second part of Objective 2(a): *To investigate the existence of association between socio-economic background and the investment behaviour of the respondents*, with a focus on the second key component of investment behaviour Investment Strategy (IS). The same socio-economic factors considered in previous section are now examined for their association with the respondents' preferred investment strategy, using a binary variable derived via OPCA and recoded to reflect professional vs. non-professional source reliance on sources of investment information.

Methodology Overview

To examine the influence of socio-economic variables on investment strategy:

- Cross-tabulation analysis was performed between each socio-economic factor and Investment Strategy.
- Chi-square tests of independence were conducted to check statistical significance.
- Bar charts were generated from SPSS output for each relationship.
- The Investment Strategy (IS) variable was binary (0 = Non-professional Source, 1 = Professional Source).

All analysis was based on 591 valid responses, ensuring consistency across all comparisons.

A. Age and Investment Strategy

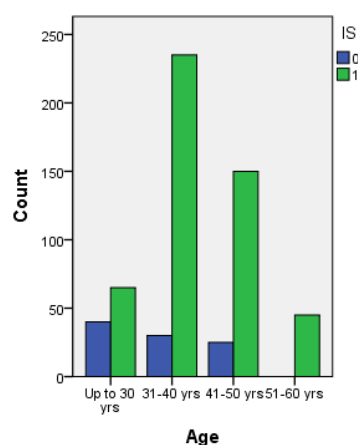


Figure 25 Distribution of Investment Strategy Across Age Groups (Source: Researcher's Calculation).

The chart shows that younger respondents (up to 30 years) rely more on professional sources, while the reliance becomes more diverse in mid-age categories and then again increases in

older groups. This indicates evolving trust in professional advice as age and financial exposure increase.

Chi-square test result: $\chi^2 = 51.145$, $df = 3$, $p = 0.000$

Statistical interpretation: A statistically significant association was observed between age and investment strategy.

B. Institution Type and Investment Strategy

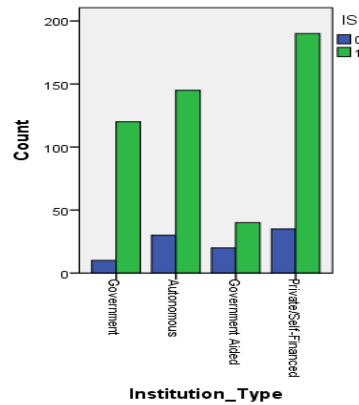


Figure 26 Investment Strategy by Institution Type (Source: Researcher's Calculation)

Respondents from Private/Self-Financed and Government Aided institutions more frequently prefer professional sources. In contrast, Autonomous institutions exhibit more mixed strategy preferences. Institutional climate and availability of advisory services might shape this pattern.

Chi-square test result: $\chi^2 = 20.183$, $df = 3$, $p = 0.000$

Statistical interpretation: Institution type shows a significant relationship with the choice of investment strategy.

C. Discipline of Study and Investment Strategy

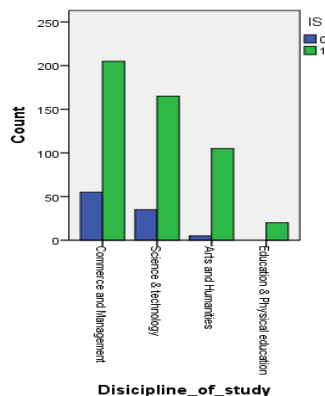


Figure 27 Investment Strategy Across Disciplines (Source: Researcher's Calculation).

Commerce & Management, and Science & Technology respondents prefer professional guidance more often, suggesting exposure to analytical or financial tools during academic training.

Chi-square test result: $\chi^2 = 19.915$, $df = 3$, $p = 0.000$

Statistical interpretation: Academic discipline is significantly associated with investment strategy.

D. Educational Qualification and Investment Strategy

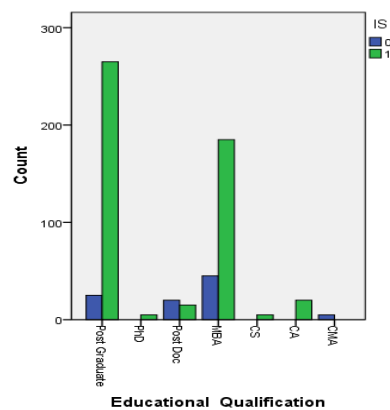


Figure 28 Investment Strategy by Educational Qualification (Source: Researcher's Calculation).

Respondents with general postgraduate (PG), MBA, and professional certifications (CA, CMA) demonstrate a stronger inclination towards professional advice. This reflects their higher financial literacy and awareness levels.

Chi-square test result: $\chi^2 = 89.507$, $df = 6$, $p = 0.000$

Statistical interpretation: Educational qualification is strongly associated with investment strategy preference

E. Years of Experience and Investment Strategy

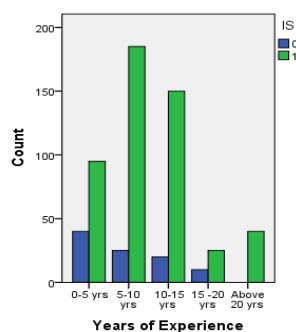


Figure 29 Investment Strategy by Years of Experience (Source: Researcher's Calculation).

Those with 5–15 years of experience rely more on professional sources, likely due to income stability, work exposure, and growing financial commitments.

Chi-square test result: $\chi^2 = 35.099$, $df = 4$, $p = 0.000$

Statistical interpretation: Years of experience significantly influences investment strategy.

F. Nature of Appointment and Investment Strategy

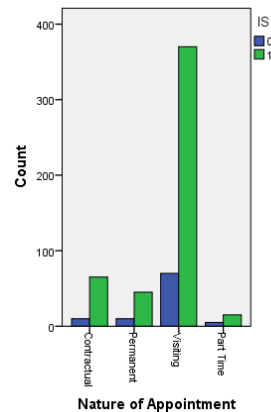


Figure 30 Nature of Appointment and Investment Strategy (Source: Researcher's Calculation).

Investment strategy appears unaffected by employment status, indicating that personal preferences or external advice sources dominate over job type.

Chi-square test result: $\chi^2 = 1.786$, $df = 3$, $p = 0.618$

Statistical interpretation: No significant relationship was observed between nature of appointment and investment strategy.

G. Marital Status and Investment Strategy

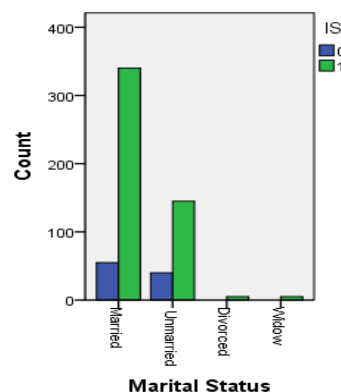


Figure 31 Investment Strategy by Marital Status (Source: Researcher's Calculation)

While married respondents show a slightly higher preference for professional advice, the difference is not strong enough to be statistically significant.

Chi-square test result: $\chi^2 = 7.478$, $df = 3$, $p = 0.058$

Statistical interpretation: The association is marginally non-significant.

H. Monthly Income and Investment Strategy

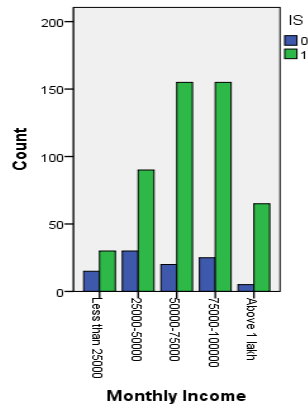


Figure 32 Investment Strategy Across Monthly Income Levels (Source: Researcher's Calculation)

Respondents with higher income brackets ($>₹75,000$) show stronger professional source usage, likely due to their ability to afford financial advisors or access digital platforms.

Chi-square test result: $\chi^2 = 24.565$, $df = 4$, $p = 0.000$

Statistical interpretation: Monthly income is significantly related to investment strategy.

I. Portion of Income Saved and Investment Strategy

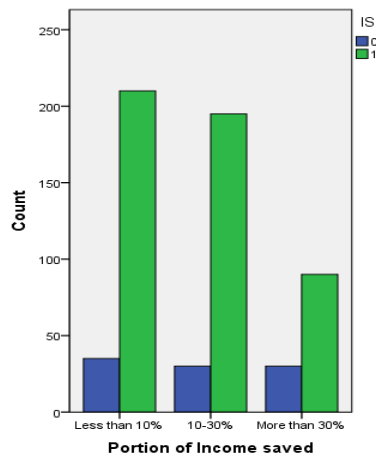


Figure 33 Investment Strategy by Portion of Income Saved (Source: Researcher's Calculation)

Those saving over 30% of their income exhibit higher professional source usage, possibly reflecting more structured financial planning.

Chi-square test result: $\chi^2 = 8.908$, $df = 2$, $p = 0.012$

Statistical interpretation: A statistically significant association exists.

J. Do You Invest Your Savings and Investment Strategy

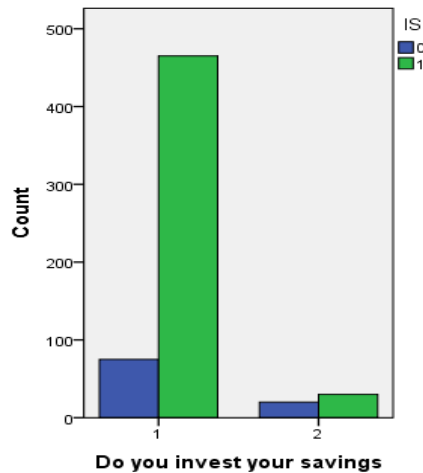


Figure 34 Investment Strategy by Investment Activity (Source: Researcher's Calculation)

Respondents who actively invest their savings tend to rely on professional sources, underscoring that financial engagement is closely tied to informed decision-making.

Chi-square test result: $\chi^2 = 23.096$, $df = 1$, $p = 0.000$

Statistical interpretation: There is a strong and significant association.

K. Portion of Savings Invested and Investment Strategy

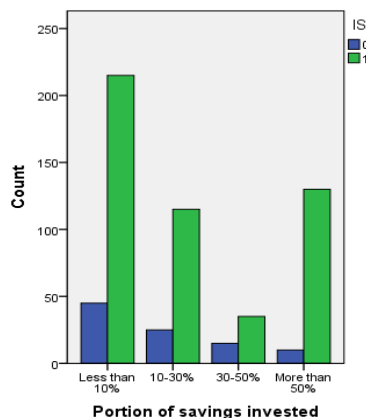


Figure 35 Investment Strategy by Portion of Savings Invested (Source: Researcher's Calculation)

Respondents who invest over 50% of their savings show a pronounced preference for professional advice, likely due to higher financial stakes involved.

Chi-square test result: $\chi^2 = 16.066$, $df = 3$, $p = 0.001$

Statistical interpretation: A statistically significant relationship was observed.

Summary of Statistical Findings

Table 15 Chi-square Test Results of Socio-Economic Variables and Investment Strategy

Socio-Economic Factor	χ^2 Value	df	p-value	Significance	Interpretation
Age	51.145	3	0.000	Yes	Older respondents tend to rely more on professional sources.
Institution Type	20.183	3	0.000	Yes	Private/self-financed institutions show higher professional source usage.
Discipline of Study	19.915	3	0.000	Yes	Science and commerce disciplines favour professional strategies.
Educational Qualification	89.507	6	0.000	Yes	Higher degrees show greater reliance on professional advice.
Years of Experience	35.099	4	0.000	Yes	Mid-career respondents use professional sources more.
Nature of Appointment	1.786	3	0.618	No	Employment type does not influence strategy choice.
Marital Status	7.478	3	0.058	No	Weak trend toward professional source use among married respondents.
Monthly Income	24.565	4	0.000	Yes	Higher income groups prefer professional sources.
Portion of Income Saved	8.908	2	0.012	Yes	More savings associated with structured financial planning.
Do You Invest Your Savings?	23.096	1	0.000	Yes	Active investors rely more on professional advice.
Portion of Savings Invested	16.066	3	0.001	Yes	Higher investment proportion correlates with advice usage.

Key Observations and Summary

- Most socio-economic factors show statistically significant relationships with investment strategy.
- Age, educational qualification, monthly income, and years of experience are particularly strong predictors.
- Nature of appointment and marital status do not show statistically robust associations.
- Overall, higher education, income, savings, and active investment behaviour all correlate positively with the use of professional investment sources.

Table 16 Combined Influence of Socio-Economic Variables on Risk Capacity and Investment Strategy

Socio-Economic Variable	Affects Risk Capacity (RC)?	Affects Investment Strategy (IS)?	Affects Both?	Key Socio-Economic Factor?
Age	Yes (p = 0.000)	Yes (p = 0.000)	Yes	Yes
Institution Type	Yes (p = 0.000)	Yes (p = 0.000)	Yes	Yes
Discipline of Study	Yes (p = 0.001)	Yes (p = 0.000)	Yes	Yes
Educational Qualification	Yes (p = 0.000)	Yes (p = 0.000)	Yes	Yes
Years of Experience	Yes (p = 0.000)	Yes (p = 0.000)	Yes	Yes
Nature of Appointment	No (p = 0.796)	No (p = 0.618)	No	No
Marital Status	Yes (p = 0.000)	No (p = 0.058)	No	No
Monthly Income	Yes (p = 0.000)	Yes (p = 0.000)	Yes	Yes
Portion of Income Saved	Yes (p = 0.000)	Yes (p = 0.012)	Yes	Yes
Do You Invest Savings?	Yes (p = 0.000)	Yes (p = 0.000)	Yes	Yes
Portion of Savings Invested	Yes (p = 0.000)	Yes (p = 0.001)	Yes	Yes

□ All variables except "Nature of Appointment" and "Marital Status" have a significant influence on both RC and IS or at least one of them.

□ The most robust predictors of investment behaviour across both dimensions are:

- Educational Qualification
- Age
- Income
- Experience
- Savings and Investment Activities.

5.4.2 Obj.2(b) To investigate the existence of association between Cognitive biases and the investment behaviour of the respondents.

5.4.2(a) Association Between Cognitive Biases and Risk Capacity

This section addresses objective 2(b): To investigate the existence of association between cognitive biases and the investment behaviour of the respondents, with a specific focus on Risk Capacity (RC). The analysis employs binary logistic regression due to the binary nature of the dependent variable, and two cognitive bias components extracted via Ordinal Principal Component Analysis (OPCA) are used as independent variables.

Methodology Overview

A set of seven cognitive biases namely Anchoring, Confirmation, Overconfidence, Familiarity, Self-Serving Bias, Cognitive Dissonance, and Choice Dilemma were initially selected based on literature and theoretical relevance. To reduce multicollinearity and dimensionality, OPCA

(Ordinal Principal Component Analysis) was performed. Two latent components were retained based on factor loadings:

- CB1: Choice Dilemma (individual hesitancy and indecision)
- CB2: Self-Referential Biases (Anchoring, Confirmation, Overconfidence, Familiarity, Self-Serving Bias)

These two OPCA derived factors served as independent variables. The binary dependent variable was Risk Capacity (RC), coded as:

- $RC_i = 1$ if normalized score $\geq$ median
- $RC_i = 0$ otherwise

The regression model used was binary logistic regression, as Ordinary Least Squares (OLS) is not suitable for binary categorical outcomes.

Model Specification 5 (Risk Capacity & Cognitive Biases)

Logistic Regression Equation:

$$\widehat{RC}_i = -6.954 - 0.994 CB1 + 11.615 CB2$$

Table 17 Binary Logistic Regression: Model 5 – Cognitive Biases and Risk Capacity

VARIABLE	COEFFICIENT (B)	P-VALUE	SIGNIFICANCE
INTERCEPT (A)	-6.954	0.000	***
CB1 (CHOICE DILEMMA)	-0.994	0.231	ns
CB2 (SELF-REFERENTIAL)	11.615	0.000	***

- Model Fit: -2 Log Likelihood = 322.159
- Classification Accuracy: 92.4%
- Nagelkerke R^2 : 0.757 (indicating strong explanatory power).

Table 18 Logistic Regression Output – Cognitive Biases and Risk Capacity

PREDICTOR VARIABLE	COEFFICIENT (B)	S.E.	WALD	DF	P-VALUE	EXP(B)	95% CI FOR EXP(B)
INTERCEPT (A)	-6.954	0.645	116.201	1	0.000	0.001	—
CHOICE DILEMMA (CB1)	-0.994	0.831	1.432	1	0.231	0.370	0.073 – 1.885
SELF-REFERENTIAL BIAS (CB2)	11.615	1.008	132.691	1	0.000	110,751.194	15,348.307 – 799,164.813

$$\widehat{RC}_i = \alpha + \hat{\beta}_1 CB1 + \hat{\beta}_2 CB2$$

$RC_i = 1$, if the normalised value $\geq$ median score

$= 0$, otherwise

And CB1 AND CB2 are the independent variable

Where CB1 is Choice Dilemma

CB2 is Adaptive Sociability

Since, RC_i is a binary dependent categorical variable so we cannot apply OLS here.

Therefore, we proceed for Logit Regression.

The logistic estimated equation is-

$$\widehat{RC}_i = -6.954 - 0.994 CB1 + 11.615 CB2$$

p values (.000) (.231) (.000)

PREDICTED PERCENTAGE CORRECT = 92.4

MODEL FIT VALUES -2 Log Likelihood = 322.159

Key Interpretations

(a)Choice Dilemma: The coefficient for Choice Dilemma ($B = -0.994$) shows a statistically insignificant ($p = 0.231$), suggesting that indecisiveness or hesitation when faced with multiple investment choices does not significantly impact a respondent's risk capacity. This implies that uncertainty in decision-making alone may not determine whether one takes financial risk.

Despite theoretical expectations, indecisiveness or overanalyses does not appear to affect whether someone is risk-tolerant. This finding aligns with literature suggesting that choice overload primarily impacts satisfaction or speed of decision-making rather than risk propensity (Iyengar & Lepper, 2000).

(b) Self-Referential Biases: For one unit rise in the level of Cognitive Assurance Bias, there is a likelihood that the Risk Capacity of the respondents will rise/improve by 1.1×10^5 (approx.) times.

An increase in Cognitive Assurance Bias as reflected by (existence of Anchoring Bias, Confirmation Bias, Overconfidence Bias, Familiarity Bias, Self-Serving Bias) would result in an increased chances of taking risky decisions by the respondents. Table 6

The coefficient for Self-Referential Bias is significant ($B = 11.615$, $p = .000$), with an $\text{Exp}(B)$ of approximately 110,751, indicating that a one-unit increase in self-referential biases is associated with a drastic increase in the likelihood of higher risk capacity.

This finding implies that when respondents exhibit cognitive biases such as anchoring, confirmation bias, overconfidence, familiarity bias, and self-serving bias, they are more inclined to take financial risks. These biases contribute to a form of cognitive assurance, where individuals feel confident in their own judgment and past experiences. Such psychological assurance—though possibly flawed—can embolden individuals to engage in riskier investment decisions, possibly because they overestimate their ability to predict or control outcomes.

Respondents who exhibit higher levels of biases like overconfidence, anchoring, confirmation bias, familiarity bias, and self-serving bias are much more likely to take investment risks. These biases create an inflated sense of judgment reliability, promoting bolder financial decisions, consistent with the concept of cognitive assurance bias (Barber & Odean, 2001; Kahneman & Tversky, 1974).

Model Summary:

The regression model assessing the influence of cognitive biases on the risk capacity of female academics reveals a significant association between Self-Referential Biases and risk-taking ability. Specifically, respondents with higher tendencies towards self-referential thinking—reflected through biases such as anchoring, overconfidence, confirmation, familiarity, and self-serving bias—are substantially more likely to exhibit higher risk capacity in their investment behaviour. These biases may create an inflated sense of confidence in their judgment, which enhances their willingness to take investment risks.

In contrast, Choice Dilemma, which reflects decision-making confusion or hesitation when faced with multiple options, is not a significant predictor of risk capacity. This suggests that indecision or overthinking does not meaningfully influence the ability of female academics to assume financial risk.

5.4.2 (b) Association Between Cognitive Biases and Investment Strategy

The second part of Objective 2(b) is examined in this section: To test if the association of cognitive biases with respondents' investment behaviour exists and specifically to demonstrate the impact of cognitive biases on Investment Strategy (IS). The model investigates the role of Choice Dilemma and Self-Referential Biases in determining whether female academics rely on professional or non-professional investment sources.

Methodology overview

As with the analysis of Risk Capacity, this model uses the two cognitive bias components derived through Ordinal Principal Component Analysis (OPCA):

- CB1: Choice Dilemma (capturing hesitancy, decision overload)
- CB2: Self-Referential Biases (comprising Anchoring Bias, Confirmation Bias, Overconfidence, Familiarity Bias, and Self-Serving Bias)

These components represent latent constructs of cognitive distortion. The OPCA extraction reduced the original seven biases into two dimensions, allowing a parsimonious regression model.

The dependent variable in this model is Investment Strategy (IS), which reflects the source of investment information respondents rely upon. Based on factor scores obtained from OPCA on seven investment strategy items, a binary coding was applied:

- $IS_i = 1$ if normalized value $\geq$ median
- $IS_i = 0$ otherwise

Binary logistic regression was used since the dependent variable is binary. The estimated model is:

$$\widehat{IS}_i = \alpha + \hat{\beta}_1 CB1 + \hat{\beta}_2 CB2$$

Model Specification 6 (Investment Strategy & Cognitive Biases)

Logistic Regression Equation:

$$\widehat{IS}_i = 0.495 - 2.489 CB1 + 5.200 CB2$$

Table 19 Binary Logistic Regression: Model 6 - Cognitive Biases and Investment Strategy

VARIABLE	COEFFICIENT (B)	P-VALUE	SIGNIFICANCE
INTERCEPT (A)	0.495	0.000	***
CB1 (CHOICE DILEMMA)	-2.489	0.000	***
CB2 (SELF-REFERENTIAL)	5.200	0.000	***

- Model Fit: -2 Log Likelihood = 333.503
- Classification Accuracy: 82.2%
- Nagelkerke R^2 : 0.774 (indicating strong explanatory power)

Table 20 Logistic Regression Output – Cognitive Biases and Investment Strategy

PREDICTOR VARIABLE	COEFFICIENT (B)	S.E.	WALD	DF	P-VALUE	EXP(B)	95% CI FOR EXP(B)
INTERCEPT (A)	0.495	0.303	2.672	1	0.000	1.640	—
CHOICE DILEMMA (CB1)	-2.489	0.438	32.339	1	0.000	0.083	0.035 – 0.196
SELF-REFERENTIAL BIAS (CB2)	5.200	0.547	90.307	1	0.000	181.266	62.022 – 529.769

- Model Fit: -2 Log Likelihood = 333.503
- Nagelkerke R^2 : 0.774

- Classification Accuracy: 82.2%

$$\widehat{IS}_i = \alpha + \hat{\beta}_1 CB1 + \hat{\beta}_2 CB2$$

$IS_i = 1$, if the normalised value $\geq$ median score

$= 0$, otherwise

And CB1 AND CB2 are the independent variable

Where, CB1 is Choice Dilemma

CB2 is Adaptive Sociability

Since, IS_i is a binary dependent categorical variable so we cannot apply OLS here.

Therefore, we proceed for Logit Regression.

The logistic estimated equation is-

$$\widehat{IS}_i = 0.495 - 2.489 CB1 + 5.200 CB2$$

p values (.000) (.000) (.000)

PREDICTED PERCENTAGE CORRECT= 82.2

MODEL FIT VALUES -2 Log Likelihood = 333.503

Interpretation of Results

a) Choice Dilemma: For one unit rise in the level of Choice Dilemma, there is a likelihood that the Investment Strategy of the respondents will decline by .083 times.

The coefficient for Choice Dilemma is statistically significant ($B = -2.489$, $p < 0.001$), indicating that higher levels of choice dilemma significantly reduce the likelihood of relying on professional sources for investment decisions. The odds ratio $\text{Exp}(B) = 0.083$ suggests that with every one-unit increase in decision paralysis—marked by over analysis or hesitation in selecting between multiple investment options—the likelihood of using professional financial sources decreases by approximately 91.7%. This implies that respondents who experience greater indecision tend to avoid structured, expert-led advice and may instead resort to informal or intuitive sources, possibly due to an aversion to commitment or fear of making the wrong decision.

Respondents who experience greater indecision tend to avoid structured, expert-led advice and may instead rely on informal or intuitive sources, possibly due to fear of commitment or risk aversion. This confirms that decision paralysis negatively influences professional investment planning

b) Self-Referential Biases: For one unit rise in the level of Choice Dilemma, there is a likelihood that the Investment Strategy of the respondents will rise by 1.8×10^2 (approx.) times. Table 20

The coefficient for Self-Referential Biases is statistically significant ($B = 5.200$, $p < 0.001$), meaning that as the level of self-referential cognitive biases increases, so does the likelihood of using professional sources for investment decisions. The odds ratio ($\text{Exp}(B) = 181.266$) tells us that for every one-unit increase in these biases, the odds of relying on professional sources increases by 181 times a strong relationship.

While we might expect people with these biases to reject professional advice (thinking they already "know better") such individuals might use professional sources not for learning but for validation.

They are likely to seek out expert opinions that align with their pre-existing beliefs, helping them justify their own decisions. In other words, they are not necessarily being cautious or informed rather, they are selectively using expert input to reinforce their sense of confidence or control. This suggests that individuals with stronger self-referential biases seek professional validation not necessarily to learn, but to confirm pre-existing beliefs. Such behaviours are aligned with *confirmation bias* a tendency to favour information that supports existing views.

Model Summary:

The model demonstrates that cognitive biases significantly shape investment strategy decisions among female academics. Individuals experiencing higher choice dilemma are significantly less likely to depend on professional sources, potentially due to a lack of confidence or discomfort with structured decision-making. In contrast, those exhibiting strong self-referential biases are more inclined to align with professional investment sources, possibly to reinforce their pre-existing beliefs or perceived financial acumen.

With a correct prediction rate of 82.2%, the model provides a strong fit and meaningful insight into how distinct cognitive tendencies influence the sourcing of investment information.

5.4.3 Obj.2(c) To investigate the existence of association between Cognitive biases and the investment behaviour of the respondents.

5.3 (a) Association Between Personality Traits and Risk Capacity

This section is with regards to: Objective2(c): To explore if any relationship exists between Big Five Personality Traits (Five-Factor Model) and investment behaviour of the respondents in relation to Risk Capacity (RC). Two personality components derived from OPCA Exploratory Traits (PT1) and Adaptive Sociability (PT2) serve as the predictors.

Methodology Overview

Personality traits of the respondents were measured using the Ten-Item Personality Inventory (TIPI) based on the Big Five model. Respondents rated themselves on a seven-point Likert scale across five dimensions:

- Extraversion
- Agreeableness
- Conscientiousness

- Emotional Stability (Neuroticism reverse-coded)
- Openness to Experience

To reduce dimensionality, Ordinal Principal Component Analysis (OPCA) was performed on these five traits, resulting in two distinct components:

- PT1: Exploratory Traits (representing Extraversion and Openness)
- PT2: Adaptive Sociability (representing Emotional Stability, Conscientiousness, and Agreeableness)

The dependent variable Risk Capacity (RC) was created using normalized item scores and dichotomized via median split:

- $RC_i = 1$ if normalized score $\geq$ median (high risk capacity)
- $RC_i = 0$ otherwise

Logistic regression was applied with PT1 and PT2 as independent variables.

Model Specification 7 (Risk Capacity & Personality Traits)

Logistic Regression Equation:

$$\widehat{RC}_i = -22.122 + 12.497 PT1 + 17.973 PT2$$

Table 21 Binary Logistic Regression: Model 7 - Personality Traits and Risk Capacity

VARIABLE	COEFFICIENT (B)	P-VALUE	SIGNIFICANCE
INTERCEPT (A)	-22.122	0.000	***
PT1 (EXPLORATORY)	12.497	0.000	***
PT2 (ADAPTIVE SOCIABILITY)	17.973	0.000	***

- Model Fit: -2 Log Likelihood = 159.503
- Classification Accuracy: 96.6%
- Nagelkerke R^2 : 0.891

Table 22 Logistic Regression Output – Personality Traits and Risk Capacity

PREDICTOR VARIABLE	COEFFICIENT (B)	S.E.	WALD	DF	P-VALUE	EXP(B)	95% CI FOR EXP(B)
INTERCEPT (A)	-22.122	1.897	136.258	1	0.000	0.000	—
EXPLORATORY TRAITS (PT1)	12.497	1.086	132.382	1	0.000	267472.396	27731.191 – 2579832.478
ADAPTIVE SOCIABILITY (PT2)	17.973	1.495	144.342	1	0.000	63897571.51	5389341.289 – 758213647.200

$$\widehat{RC}_i = \alpha + \widehat{\beta}_1 PT1 + \widehat{\beta}_2 PT2$$

And PT1 and PT2 are the independent variable

Where PT1 is Social Exploration

PT2 is Adaptive Sociability

Since, RC_i is a binary dependent categorical variable so we cannot apply OLS here.

Therefore, we proceed for Logit Regression.

The logistic estimated equation is-

$$\widehat{RC}_i = -22.122 + 12.497 PT1 + 17.973 PT2$$

p values (.000) (.000) (.000)

PREDICTED PERCENTAGE CORRECT= 96.6

MODEL FIT VALUES -2 Log Likelihood = 159.503

Interpretation of Results

a) Exploratory Traits: For one unit rise in the level of Social Exploration, there is a likelihood that the Risk Capacity of the respondents will rise/improve by 2.6×10^5 (approx.) times. Respondents showing tendencies of interpersonal engagement and receptivity to new experiences as reflected by their inclination towards Extraversion and Openness trait have better risk appetite. Table 4

The coefficient ($B = 12.497$, $p < 0.001$) is statistically significant, suggesting that a one-unit increase in Exploratory Traits significantly increases the likelihood of a respondent having higher risk capacity. The odds ratio ($\text{Exp}(B) = 267,472.396$) indicates that respondents scoring high in PT1 are over 2.6×10^5 times more likely to have a higher risk capacity, all else being equal.

This finding implies that respondents with exploratory tendencies—characterized by openness to new experiences and sociability—exhibit a greater willingness to take financial risks. These traits, often aligned with Openness and Extraversion, foster curiosity, engagement with novel financial avenues, and receptiveness to potential gains, which may enhance their risk-taking capacity.

b) Adaptive Sociability: For one unit rise in the level of Adaptive Sociability there is a likelihood that the Risk Capacity of the respondents will rise/improve by 6.4×10^7 (approx.) times. Respondents who tend to remain resilient, goal-oriented, and cooperative as reflected by their inclination towards Emotional stability, Conscientiousness and Agreeableness tend to have improved/calculated risk appetite.

Adaptive Sociability is statistically significant ($B = 17.973$, $p < 0.001$), with an odds ratio ($\text{Exp}(B) = 63,897,571.51$), indicating that a one-unit increase in PT2 dramatically increases the likelihood of higher risk capacity—by over 6.3×10^7 times.

Respondents who exhibit higher levels of Adaptive Sociability—a combination of emotional stability, conscientiousness, and agreeableness—are more likely to possess an enhanced capacity for taking calculated financial risks. Emotional stability helps in managing stress and maintaining composure during market volatility. Conscientious individuals tend to plan, organize, and assess risks thoroughly before making decisions, while those high in agreeableness are more open to seeking and incorporating advice from trusted sources. Together, these traits enable individuals to make well-informed, balanced decisions rather than acting on impulse or fear, thereby increasing their ability and confidence to engage with higher-risk investment opportunities.

Model Summary:

The model shows a high classification accuracy (96.6%) and good model fit ($-2LL = 159.503$), confirming the robustness of the estimates. Both components of the Big Five personality traits Exploratory Traits and Adaptive Sociability demonstrate significant associations with Risk Capacity. The results suggest that respondents who are open, sociable, resilient, and conscientious are more inclined towards embracing financial risks, possibly due to a more confident, informed, and emotionally regulated approach to investment decision-making. These insights underscore the psychological foundation of financial behaviour and highlight the importance of considering personality dispositions while designing targeted financial literacy or advisory interventions for women investors.

5.3 (b) Association Between Personality Traits and Investment Strategy

This section continues Objective 2(c): *To investigate the existence of association between Big Five Personality Traits (Five-Factor Model) and the investment behaviour of the respondents*, with a specific focus on Investment Strategy (IS). The model uses the same personality constructs extracted through OPCA Social Exploration (PT1) and Adaptive Sociability (PT2) as predictors.

Methodology Overview

Personality data were collected using the Ten-Item Personality Inventory (TIPI) measured on a seven-point Likert scale. Five personality traits were originally recorded:

- Extraversion
- Agreeableness
- Conscientiousness
- Emotional Stability
- Openness to Experience

Ordinal Principal Component Analysis (OPCA) was run on these five traits, and two higher-order components were extracted:

- PT1: Social Exploration (comprising Extraversion and Openness)

- PT2: Adaptive Sociability (comprising Emotional Stability, Conscientiousness, and Agreeableness)

The dependent variable, Investment Strategy (IS), was derived from factor scores generated through OPCA on seven items measuring source preferences. It was converted to a binary outcome:

- $IS_i = 1$ if normalized score $\geq$ median (professional source user)
- $IS_i = 0$ otherwise

Binary logistic regression was applied using PT1 and PT2 as independent variables.

Model Specification 8 (Personality Traits & Investment Strategy)

Logistic Regression Equation:

$$\widehat{IS}_i = -2.651 - 0.255 PT1 + 6.160 PT2$$

Table 23 Binary Logistic Regression: Model 8 - Personality Traits and Investment Strategy

VARIABLE	COEFFICIENT (B)	P-VALUE	SIGNIFICANCE
INTERCEPT (A)	-2.651	0.000	***
PT1 (SOCIAL EXPLORATION)	-0.255	0.709	ns
PT2 (ADAPTIVE SOCIABILITY)	6.160	0.000	***

- Model Fit: -2 Log Likelihood = 364.176
- Classification Accuracy: 82.2%
- Nagelkerke R^2 : 0.509

Table 24 Logistic Regression Output – Personality Traits and Investment Strategy

PREDICTOR VARIABLE	COEFFICIENT (B)	S.E.	WALD	DF	P-VALUE	EXP(B)	95% CI FOR EXP(B)
INTERCEPT (A)	-2.651	0.503	27.804	1	0.000	0.071	—
SOCIAL EXPLORATION (PT1)	-0.255	0.684	0.139	1	0.709	0.775	0.202 – 2.970
ADAPTIVE SOCIABILITY (PT2)	6.160	0.804	58.802	1	0.000	473.614	100.511 – 2230.747

$$\widehat{IS}_i = \alpha + \hat{\beta}_1 PT + \hat{\beta}_2 PT2$$

$IS_i = 1$, if the normalised value $\geq$ median score

= 0, otherwise

And PT1 AND PT2 are the independent variable

Where PT1 is Social Exploration.

PT2 is Adaptive Sociability.

Since, IS_i is a binary dependent categorical variable so we cannot apply OLS here.

Therefore, we proceed for Logit Regression.

The logistic estimated equation is-

$$\widehat{IS}_i = -2.651 - 0.255 PT1 + 6.160 PT2$$

P values (.000) (.709) (.000)

PREDICTED PERCENTAGE CORRECT= 82.2

MODEL FIT VALUE -2 Log Likelihood = 364.176

Interpretation of Results

a) Exploratory Traits: Not significant.

The statistically insignificant coefficient for Exploratory Traits ($B = -0.255$, $p = 0.709$) indicates that social exploration, which reflects tendencies toward extraversion and openness to experience, does not significantly influence the likelihood of relying on professional financial sources. In other words, individuals who are socially expressive, adventurous, or open to new ideas may still prefer informal or familiar sources of investment information such as peers, family, or online forums over structured, professional advice. This may be due to a preference for experiential learning or spontaneous decision-making, which contrasts with the systematic and research-oriented approach typically associated with professional investment strategies.

b) Adaptive Sociability: For one unit rise in the level of Adaptive Sociability, there is a likelihood that the Investment Strategy of the respondents will rise/improve by 4.7×10^2 (approx.) times. It is implied that if the inclination of the respondents towards traits like resilience, goal-orientation and cooperation as reflected by (Emotional stability, Conscientiousness and Agreeableness traits) is on the rise the chance of having a better/active investment strategy is high.

The coefficient for Adaptive Sociability is strongly positive ($B = 6.160$) and statistically significant ($p < 0.001$), with an odds ratio of 473.614. This implies that for each unit increase in adaptive sociability a trait marked by emotional stability, conscientiousness, and agreeableness the likelihood of a respondent relying on professional sources of financial information increases by nearly 474 times. This underscores that individuals who are emotionally balanced, self-disciplined, and cooperative are more inclined toward adopting structured, informed, and credible approaches in their investment decisions.

Model Summary:

The analysis reveals that Adaptive Sociability is a significant predictor of professional investment strategy among female academics. Traits such as emotional stability and conscientiousness foster a disposition that values expertise, planning, and precision—traits

essential for engaging with professional financial advisors or credible investment platforms. On the other hand, Exploratory Traits—though theoretically relevant to openness in decision-making—do not exhibit a statistically significant influence on the choice of investment information sources. This reinforces the idea that professional investment behaviour is more strongly rooted in emotional regulation and goal-oriented traits than in general social or intellectual openness.

5.4 Investment Priorities of Female Academics

This section is placed after the analyses for Objective 2, as it addresses the third component of investment behaviour Investment Priority using descriptive methods. It is not part of the direct objective-wise inferential modelling but enriches the understanding of behavioural dimensions explored in Objectives 1 and 2.

This section complements the analysis of investment behaviour by addressing the third core component—Investment Priority. It focuses on identifying the specific financial goals that guide investment choices among female academics, thereby offering deeper insight into the motivational and purpose-driven aspects of their financial decision-making. By focusing on the specific objectives guiding their investment decisions, this section offers a behavioural window into how respondents perceive the purpose and direction of their financial engagement.

Methodology

Investment priorities were assessed using a multiple-response format, where respondents were allowed to select all preferred investment alternatives and objectives for investment objectives from a predefined list. This construct included:

a) Preferred Investment Alternative like shares, Mutual Funds, Debentures & Bonds, Precious metals, Real Estate, Fixed Deposits, Crypto assets, Insurance and Pension plans, Post office saving schemes etc.

b) Investment Objectives of the respondents including Marriage, House/Property acquisition, Education of family members, Retirement Planning, Tax Planning etc.

Since respondents could select more than one option, a multiple response frequency analysis was conducted using SPSS. This approach captures the breadth of financial objectives female academics pursue rather than limiting analysis to a single dominant goal. Each priority was treated as a binary indicator (selected/not selected), and the results are reported in terms of the number and percentage of respondents who selected each option. Percentages are calculated based on the total sample size (N = 591).

This descriptive approach is particularly useful for understanding goal-oriented financial behaviour and provides deeper insight into the cognitive and emotional drivers of investment decision-making. Such priorities serve as behavioural signals that align with the observed patterns in Risk Capacity and Investment Strategy.

5.4 (a) Preferred Investment Alternative

Table 25 Investment Preferences of Respondents based on Investment Avenues (N = 591)

Investment Instrument	No. of Respondents	% of Respondents
Fixed Deposit	406	68.70%
Insurance and Pension Plans	382	64.64%
Post Office Saving Schemes	328	55.50%
Gold & Silver (Precious Metals)	273	46.19%
Mutual Funds	237	40.10%
Shares	140	23.69%
Real Estate	118	19.97%
Debentures & Bonds	95	16.07%
Crypto Assets	44	7.45%
Other	38	6.43%

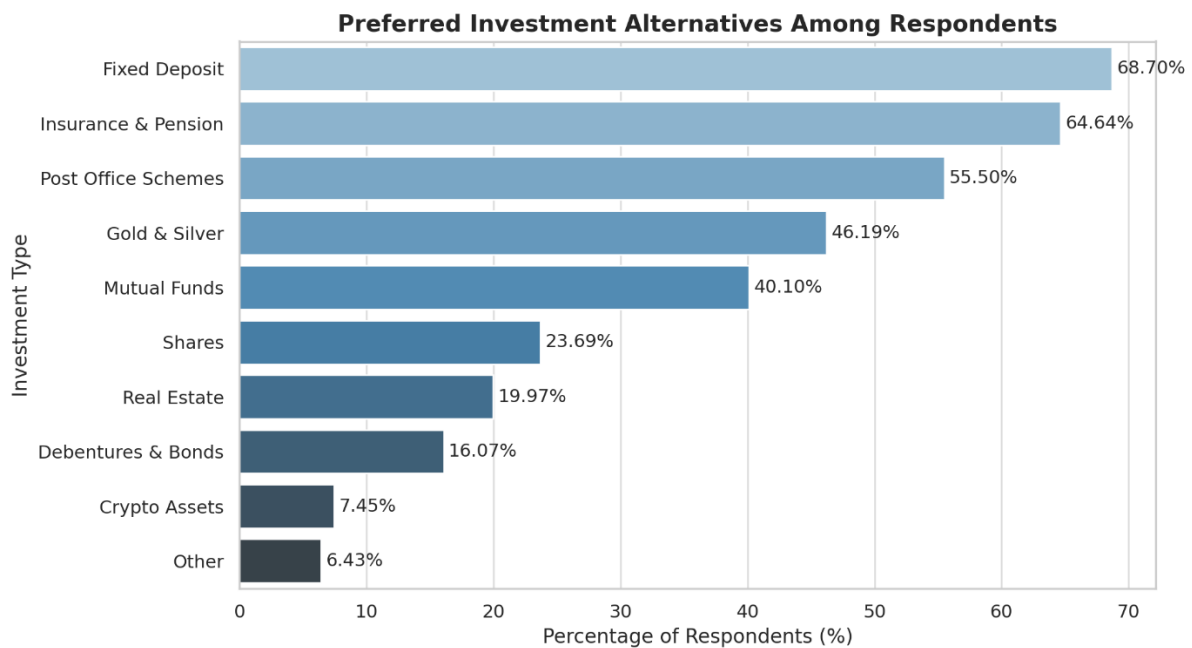


Figure 36 Distribution of Preferred Investment Alternatives Among Female Academics.

Interpretation of Findings

The findings reveal that the top three preferred investment avenues among female academics are Fixed Deposits (68.7%), Insurance and Pension Plans (64.6%), and Post Office Saving Schemes (55.5%). These instruments are traditionally perceived as low-risk, stable, and capital-preserving, which strongly reflects the respondents' preference for financial security and predictability over aggressive wealth accumulation.

The inclination towards Gold & Silver (46.2%) also underscores the continuing cultural and financial significance of precious metals in Indian households, particularly among women, where gold often serves both as a store of value and a symbol of financial independence. Mutual Funds (40.1%) ranked in the mid-range of preferences, suggesting that while there is moderate interest in market-linked instruments, the adoption is still cautious.

On the other end of the spectrum, relatively fewer respondents chose Shares (23.7%), Real Estate (20%), and Crypto Assets (7.4%), which are typically associated with higher volatility,

longer investment horizons, or less regulatory clarity. This suggests that a significant segment of the population still exhibits limited risk tolerance or lacks the confidence and digital literacy required to navigate more complex investment avenues.

The low preference for debentures and bonds (16.1%) and ‘Other’ instruments (6.4%) further validates a conservative financial attitude, possibly due to unfamiliarity with these instruments or limited access to formal financial advisory services. Overall, the data points toward a behavioural profile dominated by Risk-Averse Investors and Security-Driven Decision Makers, who prioritize safety, liquidity, and trust over speculation or high-return potential.

These trends resonate with the psychological constructs discussed in earlier chapters particularly the influence of financial attitude, anchoring bias, and low overconfidence, all of which guide the respondent group toward low-volatility asset choices. The preference patterns also align with empirical literature that identifies women investors as typically more cautious, long-term focused, and inclined towards capital preservation strategies. (Lusardi & Mitchell, 2008; Barber & Odean, 2001).

5.4 (b) Investment Objectives

Table 26 Summary of Investment Objectives of the Respondents

Investment Objective	No. of Respondents	% of Respondents
Retirement Planning	414	70.05%
Tax Planning	339	57.36%
Education of Family Members	291	49.24%
Buying House/Property	191	32.32%
Marriage	111	18.78%
Other	54	9.14%

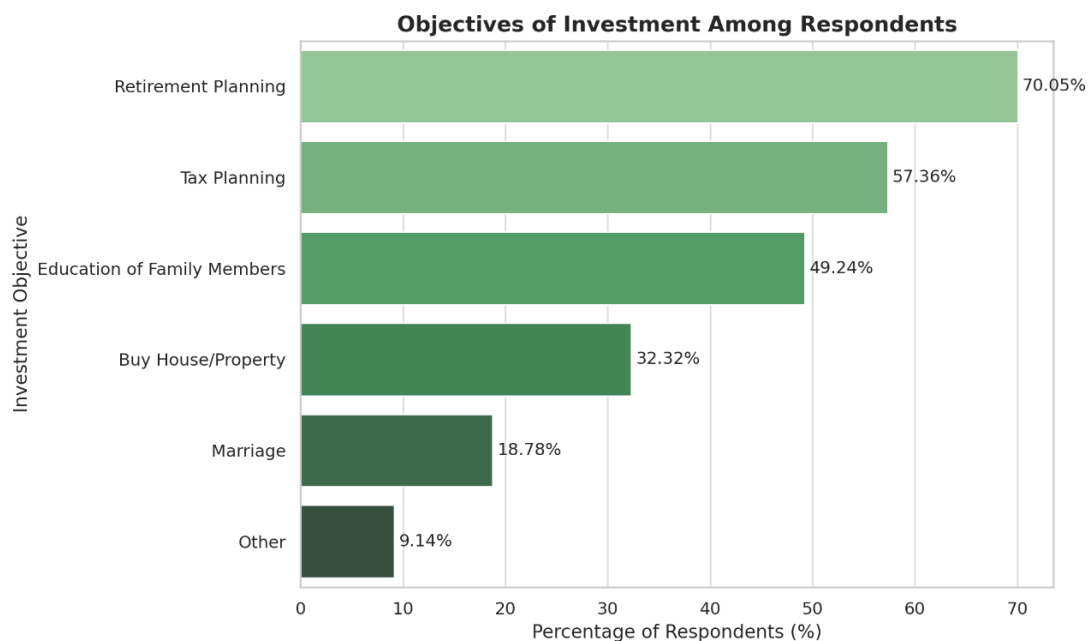


Figure 37 Distribution of Preferred Investment Objectives Among Female Academics

Interpretation of Findings

The findings highlight that the top three investment priorities among female academics are Retirement Planning (70.1%), Tax Planning (57.4%), and Education of Family Members (49.2%). These objectives represent long-term, stability-driven financial goals and reflect a strong orientation toward future security and family welfare.

The prominence of retirement planning suggests that respondents are deeply conscious of the need to ensure financial independence in later life, which aligns with life-cycle investment theories (Modigliani & Brumberg, 1954). This proactive mindset reflects a strong understanding of self-reliance in the absence of institutional pension support, especially in the academic sector.

The priority placed on education indicates a commitment to intergenerational support and social mobility, particularly for children and dependents. This aligns with the socialized role of women as caregivers and planners within the household structure, and supports the view that female investors often link financial decisions to family outcomes and future preparedness.

The inclusion of property acquisition (32.3%) as a key goal reinforces the desire to translate financial savings into tangible, appreciating assets that offer long-term security and potential rental or resale income. Tax Planning (57.4%) was also a significant motivation, highlighting a moderate awareness of tax-saving instruments, likely influenced by institutional guidance and financial literacy interventions.

Objectives such as marriage (18.8%) and ‘other’ goals (9.1%) were relatively less prioritized, indicating that short-term or discretionary motivations are not the primary drivers of investment behaviour in this demographic group. Instead, the respondents seem to adhere to a structured, goal-based planning approach, characterized by foresight and practical allocation of resources.

Collectively, these patterns mirror the behavioural profiles previously identified in this study, such as Cautious Planners and Proactive Guardians, who are marked by high financial attitude scores, relatively strong digital skills, and susceptibility to familiarity and self-referential biases. The findings also support the conclusion that female academics exhibit a high degree of financial intentionality, even if they tend to operate within conservative investment frameworks.

Summary

The descriptive analysis of investment priority reveals a distinctly conservative and goal-oriented financial behaviour among female academics. Respondents overwhelmingly prefer safe, traditional instruments such as Fixed Deposits (68.7%), Insurance and Pension Plans (64.6%), and Post Office Schemes (55.5%). These choices reflect a strong inclination toward capital preservation, risk aversion, and trust in institutionally-backed financial products. Conversely, high-risk, and complex alternatives like Crypto Assets (7.4%), Shares (23.7%), and Debentures (16.1%) received limited preference, suggesting a cautious approach toward speculative or market-linked instruments.

In terms of investment objectives, the top priorities were Retirement Planning (70.1%), Tax Planning (57.4%), and Education of Family Members (49.2%). These goals indicate a long-term orientation driven by security, future preparedness, and intergenerational responsibility. The relatively lower focus on marriage (18.8%) and discretionary goals further underscores a structured, purpose-driven mindset.

Together, these patterns present a coherent behavioural profile of respondents as risk-conscious, future-focused, and financially responsible individuals. The alignment between preferred instruments and long-term objectives confirms that investment decisions are largely shaped by a desire for stability, family welfare, and retirement security. These insights validate and complement the regression findings on risk capacity and investment strategy, reinforcing the portrayal of respondents as Cautious Planners and Proactive Guardians in their financial lives.

5.5 Motivation for the third objective:

The third objective aims to assess the overall perception of female academics towards financial investment, building upon the insights gained from the first two objectives. By examining the levels of financial literacy, digital skills, socio-economic background, cognitive biases, and personality traits, this objective will highlight how these key variables shape their attitudes and perceptions towards financial investment. Understanding how female academics perceive the role of investment in their financial planning, risk-taking, and long-term goals will provide a deeper understanding of the psychological and behavioural factors that influence their investment decisions. This objective seeks to link the cognitive and skill-based factors with the emotional and attitudinal aspects of investment behaviour, offering a more holistic view of how female academics approach financial investment.

While the first two objectives focus on identifying key factors influencing investment behaviour and their underlying determinants, understanding the *perception* of female academics towards financial investment provides critical insights into their attitudes, motivations, and decision-making processes. Perceptions shape how individuals interpret risks, opportunities, and uncertainties associated with investing. By examining these perceptions and categorizing them into different investment strategies—such as proactive, aggressive, or cautious—we can better understand how personal beliefs and risk capacity influence actual investment choices. This knowledge is vital for designing targeted financial literacy initiatives and behavioural interventions that resonate with female academics' perspectives, ultimately encouraging more confident and strategic investment behaviour tailored to their unique perceptions and risk profiles.

5.6 Obj.3 To assess the overall perception of female academics towards financial investment.

This section addresses Objective 3: *To assess the overall perception of female academics towards financial investment*. This objective is fulfilled in two parts:

Methodological Approach to Objective 3: Justification and Rationale.

Objective 3a: To assess the stated perception of female academics towards financial investment.

Perception, as a psychological construct, can be meaningfully examined through the self-reported attitudes, awareness, and preferences of respondents in relation to financial investment. To assess this overall perception, the present study applies descriptive statistical techniques to the responses provided for perception-related items in the structured questionnaire.

Data Source: The questionnaire incorporated a set of items specifically designed to capture respondents' perspectives on the importance of investment, inclination towards risk-taking, orientation towards financial planning, and preferred investment avenues.

Analytical Approach: Descriptive statistics, including measures of central tendency (mean), dispersion (standard deviation), and distributional characteristics (frequency and percentage), were employed to summarize and interpret the overall perception patterns.

Rationale: This analytical design facilitates the evaluation of the *stated perception* of female academics about financial investment, thereby providing insights into their general awareness levels, investment attitudes, and preference structures. Such an approach is aligned with established practices in financial behaviour research, where direct self-reports are frequently employed to measure perception (Atkinson & Messy, 2012).

Accordingly, Objective 3a concentrates on delineating the explicit, self-reported overall perception of financial investment among female academics in Kolkata.

Objective 3b: To assess the derived perception of female academics towards financial investment.

While self-reported measures provide valuable insights, perceptions are often shaped by latent behavioural tendencies that may not be fully captured through direct responses. To address this limitation, the study also assesses a derived perception of financial investment by examining observable behavioural outcomes.

Conceptual Basis: Derived perception is operationalized through two established behavioural constructs in financial literature Risk Capacity (RC) and Investment Strategy (IS) (Grable & Lytton, 1999; Weber, Blais & Betz, 2002). These constructs jointly capture both the respondent's willingness to assume financial risk and the degree of deliberation or structure in investment decision-making.

Measurement:

- RC and IS were reduced to single-factor scores using Ordinal Principal Component Analysis (OPCA) to ensure statistical parsimony and reliability.
- The normalized component scores were then subjected to a median split, classifying respondents into binary categories (high vs. low RC and professional vs. non-professional IS).

Behavioural Categorisation: The combination of these binary indicators yields a 2×2 investor typology, consisting of four distinct categories:

1. Proactive Investors (High RC, High IS)
2. Conservative Investors (Low RC, Low IS)
3. Aggressive but Unstructured Investors (High RC, Low IS)
4. Cautious Planners (Low RC, High IS)

Validation: To strengthen construct validity, logistic regression analysis was undertaken to identify significant determinants of RC and IS. The recurrence of predictors such as financial attitude, digital skills, adaptive sociability, and self-referential biases across both constructs provides further evidence that the derived perception categories are behaviourally meaningful.

Accordingly, Objective 3b focuses on assessing the implicit, behaviourally derived perception of financial investment, thereby offering a deeper and empirically validated understanding of how female academics in Kolkata approach financial decision-making.

5.6 (a) Objective 3a: To assess the stated perception of female academics towards financial investment.

Table 27 Descriptive Statistics of Demographic and Behavioural Finance Variables (N=591)

Variable	N	Min	Max	Mean	SD	% Below Mean	% Above Mean
Type of Institution	591	1	5	2.64	1.199	46.6%	53.4%
Age	591	1	4	2.27	0.841	47.5%	52.5%
Discipline of Study	591	1	4	1.81	0.853	39.9%	60.1%
Highest Educational Qualification	591	1	5	2.55	1.625	43.2%	56.8%
Years of Experience	591	1	5	2.38	1.104	44.5%	55.5%
Nature of Appointment	591	1	4	2.69	0.733	51.4%	48.6%
Marital Status	591	1	3	2.69	0.545	69.9%	30.1%
Monthly Income	591	1	4	1.36	1.120	20.4%	79.6%
Portion of Income Saved	591	1	4	3.19	0.758	58.2%	41.8%
Do you Invest your Savings	591	1	2	1.79	0.279	37.0%	63.0%
Portion of Savings Invested	591	1	4	1.08	1.209	19.0%	81.0%
Preferred Investment – FD	591	0	1	2.12	0.464	46.6%	53.4%
Preferred Investment – Post Office	591	0	1	0.69	0.497	49.3%	50.7%

Variable	N	Min	Max	Mean	SD	% Below Mean	% Above Mean
Preferred Investment – Insurance	591	0	1	0.55	0.479	45.0%	55.0%
Preferred Investment – Gold	591	0	1	0.65	0.499	48.0%	52.0%
Preferred Investment – Mutual Fund	591	0	1	0.46	0.491	46.8%	53.2%
Preferred Investment – Shares	591	0	1	0.40	0.426	45.2%	54.8%
Preferred Investment – Real Estate	591	0	1	0.24	0.400	41.8%	58.2%
Preferred Investment – Crypto	591	0	1	0.20	0.263	43.2%	56.8%
Preferred Investment – Bonds	591	0	1	0.07	0.368	43.0%	57.0%
Preferred Investment – Other	591	0	1	0.16	0.245	44.4%	55.6%
Investment Objective – Retirement	591	0	1	0.70	0.458	48.0%	52.0%
Investment Objective – Tax Saving	591	0	1	0.57	0.495	47.5%	52.5%
Investment Objective – Education	591	0	1	0.49	0.500	49.0%	51.0%
Investment Objective – House	591	0	1	0.32	0.468	46.8%	53.2%
Investment Objective – Marriage	591	0	1	0.19	0.391	44.8%	55.2%
Investment Objective – Other	591	0	1	0.09	0.288	42.5%	57.5%
Source – Family/Friends/Relatives	591	1	5	4.24	0.722	45.1%	54.9%
Source – Existing Investors	591	1	5	4.15	0.563	47.5%	52.5%
Source – Certified Planner	591	1	5	4.19	0.767	44.8%	55.2%
Source – Financial Media	591	1	5	4.15	0.516	47.1%	52.9%
Source – Brokers/Advisors	591	1	5	4.11	0.580	46.8%	53.2%
Source – Research Reports	591	1	5	3.91	0.865	45.5%	54.5%
Source – Professional Colleagues	591	1	5	4.22	0.727	45.4%	54.6%
Financial Knowledge – Diversification	591	1	5	3.00	1.392	44.9%	55.1%
Financial Knowledge – Risk–Return	591	1	5	3.05	1.438	45.0%	55.0%
Financial Attitude – Financial Plan	591	1	5	3.97	1.097	46.1%	53.9%
Financial Attitude – Long-term Saving	591	1	5	3.85	1.240	45.4%	54.6%
Financial Behaviour – Late Bill Payment	591	1	5	3.60	1.337	45.2%	54.8%
Financial Behaviour – No Long-term Goals	591	1	5	3.94	0.995	47.2%	52.8%
Personality – Extraversion	591	1	7	5.10	1.555	46.2%	53.8%
Personality – Agreeableness	591	1	7	6.21	1.106	44.9%	55.1%
Personality – Conscientiousness	591	1	7	6.43	1.029	44.9%	55.1%
Personality – Emotional Stability	591	1	7	5.19	1.336	45.6%	54.4%
Personality – Openness to Experience	591	1	7	5.21	1.494	46.5%	53.5%
Cognitive Bias – Anchoring	591	1	5	3.12	1.109	46.5%	53.5%
Cognitive Bias – Confirmation	591	1	5	3.58	1.086	46.2%	53.8%
Cognitive Bias – Overconfidence	591	1	5	3.27	1.127	46.1%	53.9%
Cognitive Bias – Cognitive Dissonance	591	1	5	2.18	1.215	44.1%	55.9%

Variable	N	Min	Max	Mean	SD	% Below Mean	% Above Mean
Cognitive Bias – Familiarity	591	1	5	3.66	1.130	46.2%	53.8%
Cognitive Bias – Self-serving	591	1	5	3.23	1.212	45.9%	54.1%
Cognitive Bias – Decision Paralysis	591	1	5	2.43	1.125	44.6%	55.4%
Risk Capacity – No Sell at Loss	591	1	5	3.44	1.352	45.1%	54.9%
Risk Capacity – Maximum Risk	591	1	5	2.91	1.318	45.4%	54.6%
Risk Capacity – Aggressive	591	1	5	3.01	1.523	45.8%	54.2%
Digital Skill – Device Competence	591	1	5	4.09	1.473	46.6%	53.4%
Digital Skill – Search Proficiency	591	1	5	4.35	1.108	46.8%	53.2%
Digital Skill – Communication Apps	591	1	5	4.45	0.944	48.2%	51.8%
Digital Skill – Online Payments	591	1	5	4.20	1.344	45.9%	54.1%
Digital Skill – Email Usage	591	1	5	4.30	1.304	46.5%	53.5%

The perception of female academics was assessed descriptively using item-wise means and standard deviations. Higher mean scores indicate stronger agreement or greater prevalence of the characteristic, whereas lower means indicate weaker alignment. Standard deviations reveal the degree of consensus or variability in responses.

Interpretation of Descriptive Statistics in the Context of Female Academics

The descriptive analysis of 591 female academics offers a comprehensive understanding of their demographic profile, investment preferences, financial literacy, cognitive and personality traits, digital skills, and overall investment orientation. These insights are crucial to assess how socio-economic background and psychological factors shape the investment behaviour of women in academia.

1. Demographic Characteristics of Female Academics

The respondents represent diverse types of institutions, with the mean value (2.64) suggesting a healthy mix of state, central, and private colleges. About 53.4% are above the average level, highlighting a slightly greater representation in higher-category institutions. The average age group lies between early and middle adulthood (mean = 2.27), with 52.5% above the mean, corresponding with the career-building and family-responsibility phase of female academics. The mean years of experience (2.38) show 55.5% above average, reflecting many at early to mid-career stages, which directly influences both their income levels and risk appetite.

Most of the female academics are married (mean = 2.69), with 69.9% above the mean, indicating that family obligations strongly influence savings and investment decisions. Monthly income shows a relatively low mean (1.36), with 79.6% above the mean, underscoring modest but stable earnings compared to other professions. However, a high proportion of income saved (mean = 3.19; 58.2% above the mean) and the fact that most respondents invest their savings (mean = 1.79; 63.0% above the mean) demonstrate financial prudence and a sense of future security. Interestingly, the portion of savings invested (mean = 1.08; 81.0% above the mean) reveals that although saving is a priority, actual allocation into different avenues remains conservative, reflecting caution in financial decision-making.

2. Investment Preferences of Female Academics

Female academics overwhelmingly prefer safe and traditional investment options such as fixed deposits (mean = 2.12; 53.4% above mean), post office savings (0.69; 50.7% above mean), insurance (0.55; 55.0% above mean), and gold (0.65; 52.0% above mean). These choices underline their cautious approach and preference for financial security and assured returns. Participation in relatively modern instruments such as mutual funds (0.46; 53.2% above mean) and shares (0.40; 54.8% above mean) is moderate, indicating gradual exposure to market-linked products. Real estate (0.24; 58.2% above mean) and cryptocurrency (0.20; 56.8% above mean) are least favoured, suggesting that illiquid or highly volatile instruments do not align with their risk appetite.

This pattern highlights that female academics, despite their educational background and digital competence, largely display risk-averse tendencies and continue to rely on stable, low-risk investment vehicles.

3. Investment Objectives

Retirement planning emerges as the top priority (mean = 0.70; 52.0% above mean), suggesting that female academics are oriented towards ensuring long-term financial stability post-retirement. Tax-saving (0.57; 52.5% above mean) and funding children's education (0.49; 51.0% above mean) are the next major objectives, reflecting compliance with financial responsibilities and concern for intergenerational welfare. Housing (0.32; 53.2% above mean) and marriage-related goals (0.19; 55.2% above mean) are secondary, perhaps due to many respondents already being married and having existing family arrangements. Other objectives (0.09; 57.5% above mean) represent more personalized financial goals.

Overall, their investment objectives emphasize security and responsibility over wealth maximization, showing the dual role of female academics as professionals and family caretakers.

4. Sources of Investment Information

The analysis shows that female academics rely most on family, friends, and professional colleagues (means above 4.20; 55% above mean) for investment-related advice. While certified financial planners (mean = 4.19; 55.2% above mean) and financial media (4.15; 52.9% above mean) are consulted, the reliance on informal networks suggests that trust and social learning play a greater role in shaping financial decisions than professional expertise. Research reports (3.91; 54.5% above mean) and brokers/advisors (4.11; 53.2% above mean) are less frequently used, showing limited dependence on institutionalized sources.

This highlights that even in an academic environment, where analytical abilities are strong, female academics lean on social networks rather than professional advisory systems when making investment choices.

5. Financial Literacy of Female Academics

Female academics demonstrate moderate financial knowledge, as reflected in their understanding of diversification (mean = 3.00; 55.1% above mean) and risk–return trade-offs (3.05; 55.0% above mean). However, their financial attitude is significantly positive, with

strong agreement on the importance of financial planning (3.97; 54.5% above mean) and long-term saving (3.85; 53.6% above mean).

Yet, the behavioural aspect reveals some contradictions—tendencies toward late bill payments (3.60; 54.0% above mean) and lack of concrete long-term financial goals (3.94; 56.1% above mean) suggest a gap between knowledge, attitude, and action. This finding underscores the need to translate favourable financial attitudes into consistent financial behaviours among female academics.

6. Personality Traits of Female Academics

The Big Five personality scores indicate that female academics are highly agreeable (6.21; 57.2% above mean) and conscientious (6.43; 58.4% above mean), implying they are cooperative, disciplined, and responsible. Moderate scores in extraversion (5.10; 52.6% above mean), emotional stability (5.19; 53.0% above mean), and openness to experience (5.21; 53.3% above mean) suggest that while they are adaptive and balanced, they do not exhibit extreme risk-taking or novelty-seeking traits.

This personality profile aligns with their observed investment behaviour—responsible, security-oriented, and cautious in risk-taking.

7. Cognitive Biases among Female Academics

The presence of confirmation bias (3.58; 54.7% above mean), familiarity bias (3.66; 55.6% above mean), and overconfidence bias (3.27; 54.5% above mean) indicates that female academics, despite their intellectual training, are not immune to cognitive distortions. They tend to rely on familiar instruments, reaffirm existing beliefs, and occasionally overestimate their financial judgment. Anchoring bias (3.12; 53.6% above mean) and self-serving bias (3.23; 54.0% above mean) are also notable, while cognitive dissonance (2.18; 42.9% above mean) and decision paralysis (2.43; 45.8% above mean) remain lower.

These biases explain why female academics, even with adequate knowledge, often restrict themselves to traditional investment avenues and display reluctance toward innovative instruments.

8. Risk Capacity of Female Academics

Risk capacity among female academics is moderate. The reluctance to sell at a loss (mean = 3.44; 55.1% above mean) reflects a cautious stance, while openness to maximum risk (2.91; 52.5% above mean) and aggressive investment (3.01; 53.0% above mean) remain limited. Thus, female academics show measured risk-taking behaviour, balancing their professional income with the need for financial safety.

9. Digital Skills of Female Academics

The respondents demonstrate high digital competence, with strong proficiency in communication apps (4.45; 54.3% above mean), search activities (4.35; 54.0% above mean), email usage (4.30; 53.6% above mean), and online payments (4.20; 52.9% above mean). Even device competence (4.09; 52.1% above mean) is considerably strong.

This confirms that digital barriers do not limit their investment participation. In fact, their digital readiness could serve as a foundation for enhancing exposure to modern financial instruments and digital investment platforms.

Summary in Context of Female Academics

The descriptive profile suggests that female academics in Kolkata are highly educated, digitally skilled, and financially prudent individuals who value savings and long-term financial security. Their investment behaviour is shaped by strong financial attitudes, cooperative and conscientious personalities, and moderate risk-taking capacity. However, they continue to favour traditional avenues due to the influence of cognitive biases, family responsibilities, and reliance on informal sources of advice.

This indicates a paradox despite intellectual capability and digital readiness, female academics remain conservative investors, prioritizing security and social trust networks over diversification and wealth maximization.

5.6 (b) Objective 3b: To assess the derived perception of female academics towards financial investment.

Core Behavioural Dimensions and Perception Categories

To further enhance the presentation of the findings under Objective 3b, the following matrix visually illustrates how the two behavioural dimensions—Risk Capacity (RC) and Investment Strategy (IS) interact to produce different investor categories, which are used here as behavioural indicators of financial perception:

Table 28 Investor Perception Matrix Based on Risk Capacity (RC) and Investment Strategy (IS).

INVESTMENT STRATEGY (IS) → RISK CAPACITY (RC) ↓	LOW IS (0)	HIGH IS (1)
LOW RC (0)	Conservative Investor Reluctant, avoids risk and avoids professional guidance.	Cautious Planner Risk-averse but follows informed, structured strategies.
HIGH RC (1)	Aggressive but Unstructured Willing to take risk, but lacks planning or formal strategy.	Proactive Investor Risk-taker who also follows a planned and professional approach.

This matrix simplifies complex behavioural patterns into four intuitive categories, each reflecting a distinct perception style toward financial investment. It can be used in practice by financial educators, advisors, and policy-makers to design investor engagement strategies.

5.6 (b) (i) Part A: Identification of Robust Determinants

Drawing upon the logistic regression analyses conducted under Objectives 1 and 2, the study identifies the variables that significantly affect both sub-dimensions of investment behaviour—Risk Capacity (RC) and Investment Strategy (IS).

Table 29 Summary of Significant Predictors Across Investment Behaviour Components

Predictor Variable	Risk Capacity (RC)	Investment Strategy (IS)
Financial Knowledge (FK)	✓	
Financial Attitude (FA)	✓	✓
Financial Behaviour (FB)		✓
Exploratory Traits (PT1)	✓	
Adaptive Sociability (PT2)	✓	✓
Choice Dilemma (CB1)		✓
Self-Referential Bias (CB2)	✓	✓
Digital Skills (DS)	✓	✓

From this summary, it is evident that the most robust determinants—those significantly influencing both RC and IS—include:

- Financial Attitude
- Adaptive Sociability
- Self-Referential Bias
- Digital Skills

These findings are supported by behavioural finance and psychology literature. For instance, financial attitude encapsulates long-term planning and a positive orientation toward saving and investment (Atkinson & Messy, 2012), while adaptive sociability traits support calculated risk-taking and trust in structured advice (McCrae & Costa, 1999). Self-referential biases influence overconfidence and heuristic thinking (Tversky & Kahneman, 1974), and digital skills enable informed, timely, and autonomous financial decisions (Lusardi & Mitchell, 2014)

5.6 (b) (ii) Part B: Investor Categorization Based on Behavioural Dimensions

To further assess overall perception, this study adopts a behavioural categorization framework grounded in the two core components of investment behaviour:

- **Risk Capacity (RC):** Reflects the individual's willingness and ability to tolerate financial risk.
- **Investment Strategy (IS):** Reflects the respondent's source reliance and decision-structuring behaviour.

Using median-split binary classification (RC_i and IS_i), four distinct investor categories are identified:

Table 30 Investor Categorization Framework

Risk Capacity (RC)	Investment Strategy (IS)	Category	Description
1	1	Proactive Investor	Risk-taking and follows a structured, professional investment strategy.
1	0	Aggressive but Unstructured	Risk-taker but lacks strategic planning or expert reliance.
0	1	Cautious Planner	Risk-averse but uses informed and structured investment methods.
0	0	Conservative Investor	Avoids both risk and structured strategy, likely minimally engaged.

This categorization draws on behavioural finance and dual-process decision-making theories. According to Kahneman (2011), individual investment behaviour is shaped by both intuitive (risk-taking) and analytical (strategic) processes. Combining RC and IS thus provides a holistic proxy for investment perception.

Interpretation:

- Proactive Investors display the most empowered and informed investment perception.
- Aggressive but Unstructured investors are bold but possibly under-informed.
- Cautious Planners prefer secure, well-planned financial engagement.
- Conservative Investors, though not dominant, highlight the need for financial education and trust-building.

Table 31 Investor Profiling Based on Risk and Strategy Among Female Academics

RC	IS	CATEGORY	DESCRIPTION	NO. OF RESPONDENTS
1	1	Proactive Investor	Willing to take risks and follows a good investment strategy. Likely to be well-informed and confident in decision-making.	306
1	0	Aggressive but Unstructured Investor	Willing to take risks but lacks a solid strategy. They may invest impulsively or without proper planning.	13
0	1	Cautious Planner	Not willing to take risks but follows a good investment strategy. Likely to prefer safe, stable investments with careful planning.	189

The remaining respondents exhibited low risk capacity and demonstrated a poor investment strategy.

5.6 (c) Key observations pertaining to Investment Priorities of Female Academics

i. Preferred Investment Alternative

Table 32 Frequency distribution of Preferred Investment Alternatives (N = 591).

Investment Instrument	No. of Respondents	% of Respondents
Fixed Deposit	406	68.70%
Insurance and Pension Plans	382	64.64%
Post Office Saving Schemes	328	55.50%
Gold & Silver (Precious Metals)	273	46.19%
Mutual Funds	237	40.10%
Shares	140	23.69%
Real Estate	118	19.97%
Debentures & Bonds	95	16.07%
Crypto Assets	44	7.45%
Other	38	6.43%

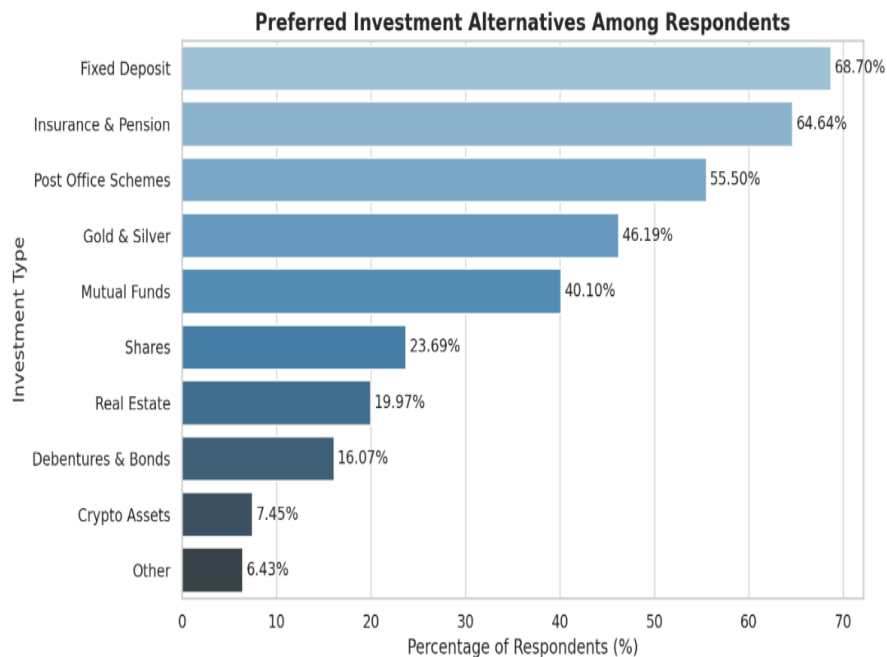


Figure 38 Preferred Investment Alternatives among respondents

ii) Investment Objectives

Table 33 Frequency distribution of Preferred Investment Objectives (N = 591)

Investment Objective	No. of Respondents	% of Respondents
Retirement Planning	414	70.05%
Tax Planning	339	57.36%
Education of Family Members	291	49.24%
Buying House/Property	191	32.32%
Marriage	111	18.78%
Other	54	9.14%

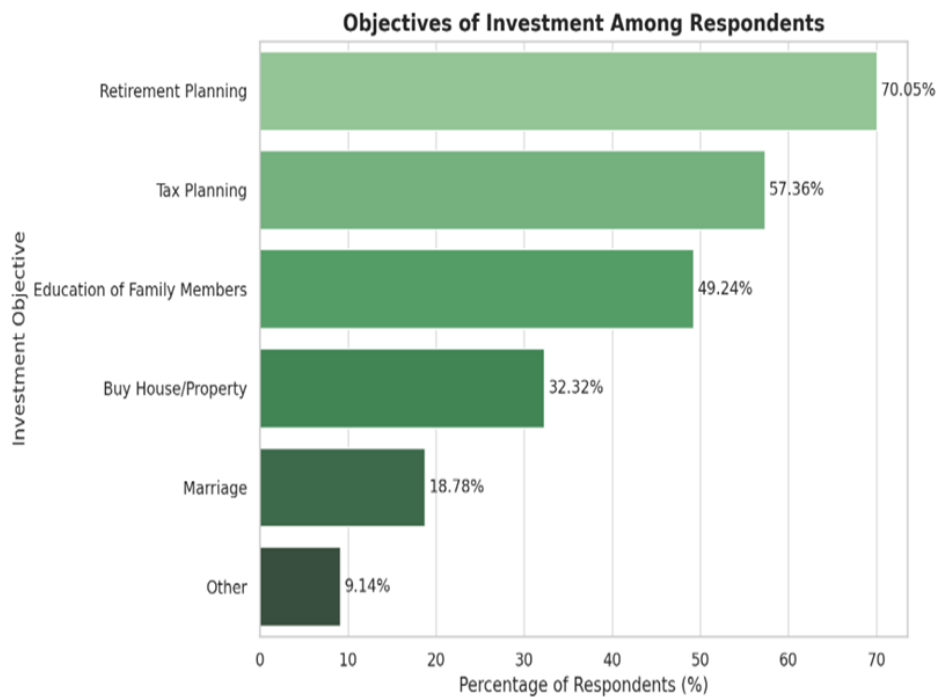


Figure 39 Objectives of Investment among respondents

Summary

Overall, the perception of female academics toward financial investment is multidimensional, driven by both psychological traits and digital-literacy-based competencies. Robust determinants like Financial Attitude, Adaptive Sociability, Digital Skills, and Self-Referential Bias shape both components of investment behaviour. Moreover, behavioural categorization provides a practical, nuanced lens to understand how perception manifests in real-world financial actions. These findings have important implications for financial literacy initiatives. Programs tailored for female professionals must account not just for knowledge gaps but also for the personality traits and biases that shape financial confidence and strategic behaviour. Understanding the overall perception of female academics towards financial investment is a key objective of this study. Since perception is inherently a psychological and attitudinal construct, it is best interpreted in the context of observed behaviour and decision-making patterns. In this research, perception is operationalized through two critical behavioural dimensions of investment behaviour: Risk Capacity and Investment Strategy. These two components together reflect both the attitudinal willingness to engage with risk and the practical approach to executing investment decisions, thereby offering a robust framework for understanding underlying investment perceptions.

6

CHAPTER 6

Study Findings, Conclusion and Recommendations

CHAPTER 6

STUDY FINDINGS, CONCLUSION AND RECOMMENDATIONS

6.1 Chapter Orientation

The present chapter aims to synthesize the findings of the study by discussing their implications considering the research questions, objectives, and literature reviewed in previous chapters. Rather than reiterating the contents of the preceding analysis, the current section offers a condensed and critical interpretation of the research outcomes. It attempts to bridge the theoretical frameworks with the empirical findings and highlight novel insights that contribute to academic literature and policymaking. The chapter also introduces prospective avenues for future research based on limitations and emerging patterns.

6.2 Discussion of Findings

The segment on “Discussion of Findings” presents an interpretive and synthesized overview of the major results obtained through the data analysis carried out in Chapter 5. Framed through the lens of the study’s core objectives, it draws parallels with existing literature and theoretical frameworks. The discussion not only elucidates the statistical significance of the relationships but also explores the psychological and contextual relevance of the findings. The segment proceeds objective-wise in the order in which the empirical analysis was conducted.

6.2.1 (a) Findings Pertaining to Objective 1(a): Financial Literacy and Investment Behaviour.

The first sub-objective under the overarching goal of this research focused on exploring how different dimensions of financial literacy—namely financial knowledge, financial attitude, and financial behaviour—affect the investment behaviour of female academics in Kolkata, specifically in terms of their risk capacity and investment strategy.

With respect to risk capacity, the logistic regression results from Model 1 indicated that both financial knowledge and financial attitude had statistically significant and positive effects, while financial behaviour did not exhibit a significant association. Financial knowledge ($B = 0.540$, $p = 0.040$; $\text{Exp}(B) = 1.716$) emerged as a moderate yet meaningful predictor. Respondents who demonstrated a sound understanding of key financial concepts—such as interest compounding, inflation effects, diversification, and product awareness—were found to be approximately 72% more likely to exhibit high risk-bearing capacity. This supports earlier findings by (Lusardi & Mitchell, 2014) who emphasized the role of objective financial understanding in fostering the confidence required to manage financial uncertainty.

However, the most influential factor was financial attitude ($B = 12.200$, $p < 0.001$; $\text{Exp}(B) = 490,007.108$), which emerged as the strongest predictor of risk capacity among all tested variables. The extraordinarily high odds ratio indicates that female academics who display a future-oriented mindset, marked by long-term savings orientation, planning inclination, and financial goal-setting, are significantly more likely to assume investment risks. These

behavioural traits reflect a higher level of financial self-control and optimism, traits that are essential for engaging in long-horizon financial products. The result is consistent with the findings of (Xiao & Porto, 2017), who identified financial attitude as the key determinant of proactive financial behaviour among women.

In contrast, financial behaviour—which includes habitual practices such as budgeting, timely bill payment, and spending control—was found to have no statistically significant impact on risk capacity ($B = -1.135$, $p = 0.340$; $\text{Exp}(B) = 0.321$). While these behaviours reflect financial discipline, they do not necessarily indicate readiness to take on calculated financial risks. This finding corroborates the observations made by (Atkinson & Messy, 2012), who assert that financial behaviours, although important, must be accompanied by knowledge and a proactive financial attitude to significantly influence strategic investment decision-making. Model 1 exhibited good explanatory strength, with a Nagelkerke R^2 value of 0.645, an overall classification accuracy of 88.1%, and a Hosmer–Lemeshow p -value of 0.804, indicating a strong model fit.

Turning to investment strategy, Model 2 examined the effect of the same three financial literacy components on the likelihood of using professional versus non-professional sources for financial decision-making. Once again, financial attitude showed a strong and statistically significant positive effect ($B = 5.119$, $p < 0.001$; $\text{Exp}(B) = 167.230$). Respondents who demonstrated a strong planning orientation and financial foresight were found to be 167 times more likely to rely on professional financial advice. This result reflects a behavioural pattern wherein individuals with well-defined long-term financial goals tend to seek structured, expert-driven inputs to align their investment decisions with their overarching financial aspirations. The finding reinforces behavioural finance literature, which posits that attitudinal constructs not only affect risk appetite but also shape the intentionality to seek regulated and credible advice.

Interestingly, financial behaviour also showed a statistically significant and very strong positive relationship with investment strategy ($B = 9.117$, $p < 0.001$; $\text{Exp}(B) = 9,110.430$). This implies that respondents who consistently engage in good financial habits such as regular saving, careful budgeting, and expense tracking are far more likely to consult professional advisors, mutual fund distributors, or certified planners. This relationship suggests that such behaviours may provide the financial bandwidth and cognitive clarity needed to engage in formal, structured investment consultations. These findings align with the conclusions drawn by (Agarwal, Driscoll, Gabaix, & Laibson, 2015), who observed that positive financial habits foster greater inclusion and participation in professional financial systems.

Contrary to expectations, financial knowledge was not found to be a significant predictor of investment strategy ($B = -0.751$, $p = 0.288$; $\text{Exp}(B) = 0.472$). This indicates that factual knowledge about financial concepts alone does not directly influence an individual's inclination to use professional investment sources. The finding highlights a knowledge–action gap, where awareness of financial principles does not necessarily translate into intentional, formalized financial behaviours in the absence of strong attitude or behavioural support. Model 2 demonstrated excellent reliability, with a classification accuracy of 90.7%, a Nagelkerke R^2 value of 0.712, and a Hosmer–Lemeshow p -value of 0.293, further confirming its robustness.

In summary, the findings suggest that among the three sub-components of financial literacy, financial attitude exerts the most consistent and powerful influence on both risk-taking capacity and reliance on professional investment advice. While financial knowledge contributes to enhancing confidence in risk-taking, and financial behaviour supports strategic action, it is the attitudinal orientation of the individual that most profoundly shapes proactive and informed investment behaviour among female academics.

6.2.1 (b) Findings summary for Objective 1(a)

Among the three components of financial literacy, financial attitude consistently predicted both risk-taking ability and professional investment strategy usage. The construct of attitude defined by a forward-looking, goal-based, and planning-oriented mindset emerged as the most influential sub-variable.

Financial knowledge significantly influenced risk capacity but did not impact investment strategy. This suggests that conceptual understanding equips individuals to evaluate financial risks but does not necessarily prompt action unless complemented by behavioural or attitudinal support.

Financial behaviour was not predictive of risk-taking but strongly influenced investment strategy. This implies that while financial discipline does not guarantee confidence in risky investments, it does correlate with structured and strategic decision-making.

These nuanced findings underscore the multi-dimensional nature of financial literacy and highlight the need for integrated financial education programs that address not just knowledge, but also planning mindsets and behavioural execution. Particularly among educated women, financial interventions must go beyond textbook understanding to address psychological, attitudinal, and motivational variables that underpin investment behaviour.

6.2.2 (a) Findings Pertaining to Objective 1(b): Digital Skills and Investment Behaviour.

The second sub-objective under the broader goal of understanding investment behaviour focused on evaluating the role of digital skills among female academics in Kolkata. Specifically, the study examined whether the respondents' ability to navigate digital financial tools, platforms, and online environments influenced their capacity to bear financial risk and their reliance on professional investment strategies. As digital financial ecosystems continue to replace traditional advisory structures, especially post-pandemic, this objective is both timely and policy-relevant.

The results drawn from the binary logistic regression models provide compelling evidence that digital proficiency significantly predicts both risk capacity and investment strategy. The third model, which evaluated the relationship between digital skills and risk capacity, revealed a highly significant and strongly positive association. The regression coefficient was found to be $B = 10.140$ ($p < 0.001$), with an odds ratio of $\text{Exp}(B) = 25,339.429$. This implies that even a single unit increase in a respondent's digital skill score increases the probability of demonstrating high risk capacity by more than 25,000 times. The model's high classification accuracy of 91.5% and Nagelkerke R^2 value of 0.737 further affirm the robustness and explanatory strength of this relationship.

These results offer crucial insights into the behavioural mechanisms at play. First, individuals with higher digital fluency are more likely to access a wide range of financial products including mutual funds, ETFs, sovereign bonds, and market-linked instruments most of which are accessible only through digital interfaces. This breadth of exposure enables more informed risk-taking. Second, digitally competent individuals experience lower psychological and logistical barriers to investing. Their familiarity with secure platforms, mobile apps, and investment portals reduces dependence on intermediaries and enhances their personal agency in evaluating risks and returns. As a result, they are better equipped to make autonomous financial decisions. These findings support (Lusardi & Mitchell, How ordinary consumers make complex economic decisions: Financial literacy and retirement readiness., 2017) argument that digital financial capability is a necessary complement to traditional financial literacy, and echo OECD (2020) reports emphasizing the critical role of digital access in fostering investor inclusion especially among women who often face systemic information asymmetries.

Model 4 of the analysis assessed the influence of digital skills on investment strategy, specifically the respondents' preference for professional versus non-professional sources of financial information. The findings once again revealed a strong, statistically significant relationship. The coefficient was $B = 5.672$ ($p < 0.001$), and the corresponding odds ratio was $\text{Exp}(B) = 289.729$. This suggests that a one-unit increase in digital skills boosts the likelihood of seeking professional investment advice by nearly 290 times. The model also demonstrated high reliability, with a classification accuracy of 89.8% and a Nagelkerke R^2 value of 0.685, indicating a well-fitting and predictive model.

The interpretation of this result highlights an important behavioural shift. Respondents who are digitally proficient are more inclined to consult structured, regulated sources of investment advice such as certified financial planners, institutional investment services, and SEBI-registered advisors rather than relying on unstructured sources like peers, relatives, or informal networks. This reflects a transition from reactive, socially guided investing to a more proactive, evidence-based decision-making process. It also suggests that digital confidence enhances not just access, but evaluative depth where the investor actively interprets, compares, and selects financial options based on data rather than defaulting to anecdotal cues.

This behavioural trend is particularly relevant in the context of the COVID-19 pandemic and its aftermath, which accelerated the shift from face-to-face financial interactions to remote, platform-driven ecosystems. With limited access to physical advisory services, individuals with strong digital competence adapted more efficiently, continuing to engage in investment planning and execution through online channels.

In summary, the findings strongly indicate that digital skills are not merely technical enablers but also psychological drivers of financial confidence and strategic behaviour. "The significant associations observed between digital proficiency and both risk-taking ability and strategic consultation behaviour underscore the transformative potential of digital financial inclusion. For female academics in particular who often balance multiple professional and familial roles enhanced digital capacity enables more independent, informed, and structured investment behaviour, thereby strengthening their overall financial autonomy."

6.2.2 (b) Findings summary for Objective 1(b)

“Digital skills were found to be a strong and statistically significant predictor of both risk capacity and investment strategy. Higher digital proficiency empowers respondents to confidently assume investment risks by enhancing access to diversified, real-time financial information.” Respondents with greater digital fluency are significantly more likely to engage professional financial advisors and use structured online tools for investment decisions. These findings underscore the increasing role of digital financial inclusion in shaping the investment landscape for educated women in urban India.

In essence, the study highlights that digital competence functions as both a technical and psychological enabler bridging the gap between financial intent and financial action. The strong statistical associations confirm that promoting digital skills among female academics is not only a matter of technology adoption, but a strategic lever for financial empowerment and inclusion.

6.2.3 (a) Findings Pertaining to Objective 2(a): Socio-Economic Background and Investment Behaviour

The present segment elaborates on how various socio-economic variables namely age, institution type, discipline of study, educational qualification, years of experience, marital status, nature of appointment, monthly income, portion of income saved, and savings-investment patterns affect the two key indicators of investment behaviour: Risk Capacity (RC) and Investment Strategy (IS). The findings are drawn from cross-tabulation analysis and chi-square tests of association and have been interpreted in a statistically rigorous and contextually grounded manner.

- Age emerged as a consistently significant determinant across both components of investment behaviour. With respect to Risk Capacity, older respondents especially those in the 41–50 and above 50 years age brackets exhibited a higher proportion of high-risk capacity, compared to younger respondents (below 30), who were predominantly risk-averse. This finding suggests that financial confidence and willingness to bear risk increase with age, likely due to cumulative experience, higher income stability, and long-term financial planning outlooks. Regarding Investment Strategy, a significant association was found wherein both the youngest and oldest age groups showed higher reliance on professional investment sources. This bifurcation may reflect the tech-savviness and curiosity of younger investors and the accumulated wisdom and financial prudence of older academics.
- The institutional affiliation of the respondents was found to significantly affect both risk-taking ability and source preference. “Respondents from Private/Self-Financed and Government Aided institutions demonstrated higher Risk Capacity, potentially due to their exposure to competitive professional environments or institutional support structures. A similar trend was observed for Investment Strategy, where respondents from these institutions were more inclined towards professional sources of financial advice. This

suggests that institutional environment and available resources may foster financially confident and informed investment behaviour.”

- Academic discipline showed a statistically significant relationship with both RC and IS. Respondents from Science & Technology and Commerce & Management streams displayed higher Risk Capacity, indicating that familiarity with quantitative tools and decision-making frameworks enhances confidence in bearing investment risk. These disciplines were also strongly associated with a preference for professional investment strategies, possibly due to greater financial awareness and exposure to analytical methods.
- One of the most robust predictors in the study, educational qualification was significantly associated with both RC and IS. Those holding postgraduate degrees, MBA qualifications, or professional certifications such as CA/CMA demonstrated higher risk capacity. Their academic background likely provided exposure to structured financial knowledge, enabling informed decision-making. The same segment also showed stronger preferences for professional sources of investment advice, reflecting higher financial literacy and greater confidence in engaging with formal financial tools and platforms.”
- Experience in academia played a vital role in shaping both risk perception and strategy-career respondents (5–15 years of experience) were more likely to possess high risk capacity. They also demonstrated greater reliance on professional investment sources, suggesting that financial maturity and exposure to broader socio-economic conditions influence investment attitudes positively.
- The marital status of the respondents had a differential impact on RC and IS. A statistically significant relationship was found between marital status and Risk Capacity. Married respondents exhibited higher levels of risk-taking, potentially due to dual-income stability or long-term financial planning common among households. However, marital status did not have a statistically significant influence on Investment Strategy, although married respondents showed a slight trend towards relying more on professional sources.
- Contrary to expectations, the nature of appointment (permanent, contractual, part-time, or visiting) was not significantly associated with either risk capacity or investment strategy. This indicates that job tenure or employment status does not independently influence investment behaviour, suggesting that financial preferences and behaviours may be driven more by personal and contextual factors than by job security alone.
- As hypothesized, monthly income had a direct and significant impact on both indicators. Higher-income groups (>₹75,000) consistently reported greater risk capacity and stronger reliance on professional investment sources. These findings reaffirm the central role of financial surplus in facilitating access to expert advice and enabling risk-bearing capacity.
- Savings behaviour showed strong predictive power. Respondents who saved over 30% of their income demonstrated both higher risk capacity and a greater tendency to rely on professional sources, reflecting structured financial planning and prudent financial discipline.

- Two behavioural variables— “*Do you invest your savings?*” and “*Portion of savings invested*” were significantly associated with both RC and IS. Active investors and those investing a greater proportion (>50%) of their savings reported the highest levels of both risk capacity and preference for professional strategies. This suggests that financial engagement is not merely an outcome of financial literacy but also a reinforcing mechanism for behavioural confidence and strategic planning.

6.2.3 (b) Findings summary for Objective 2(a)

Across the findings, the socio-economic variables of educational qualification, monthly income, years of experience, age, and savings behaviour emerged as the most significant and consistent determinants influencing both Risk Capacity and Investment Strategy. These factors collectively point towards a pattern where financial empowerment is embedded within broader socio-economic positioning and experiential maturity. On the other hand, factors like nature of appointment and marital status showed limited or no statistical influence, suggesting a lesser role in shaping investment behaviours among female academics in Kolkata. These insights are vital for policy formulation, especially for interventions targeting financial inclusion and investment readiness among women in the higher education sector.

6.2.4 (a) Findings Pertaining to Objective 2(b): Association Between Cognitive Biases and Investment Behaviour

The second psychological construct under investigation was the influence of cognitive biases on the investment behaviour of female academics. This objective sought to identify the role of two components of cognitive biases viz., Self-Referential Biases and Choice Dilemma on two outcome variables, namely risk capacity and investment strategy.

- The construct of Self-Referential Biases, which includes anchoring bias, overconfidence bias, confirmation bias, familiarity bias, and self-serving bias, was found to have a strong and statistically significant positive effect on risk capacity. The regression results ($B = 11.615$, $p < 0.001$) and the exceedingly high odds ratio ($\text{Exp}(B) = 110,751$) indicate that respondents with high levels of such biases are far more likely to demonstrate high risk tolerance. The findings suggest that cognitive assurance mechanisms, such as overconfidence and selective information interpretation, create a sense of control, thereby encouraging risk-taking behaviour. These results support the behavioural finance framework of (Tversky, 1974), which highlights the irrational confidence induced by cognitive shortcuts.
- In contrast, Choice Dilemma, a construct reflecting hesitation, decision paralysis, and overload of information, did not exert a statistically significant influence on risk capacity ($B = -0.994$, $p = 0.231$). This implies that while indecisiveness may delay investment decisions, it does not necessarily influence the individual's intrinsic willingness to take financial risks. Hence, the hypothesis regarding the role of choice dilemma on risk capacity is not supported.
- With respect to investment strategy, which examines the reliance on professional versus non-professional sources of financial information, the findings indicated a significant

positive impact of Self-Referential Biases ($B = 5.200$, $p < 0.001$; $\text{Exp}(B) = 181.266$). This result suggests that individuals with higher self-assured cognitive bias tendencies are more likely to seek professional validation. However, this source-seeking may be motivated not by a desire for objectivity, but rather as a mechanism to confirm one's pre-existing beliefs—a behavioural tendency consistent with confirmation bias theory (Nickerson, 1998).

- On the other hand, Choice Dilemma exhibited a significant negative influence on investment strategy ($B = -2.489$, $p < 0.001$; $\text{Exp}(B) = 0.083$). Respondents with greater indecisiveness were significantly less likely to consult professional financial sources. The negative association reflects avoidance of complex, structured environments due to psychological fatigue and fear of committing to a definitive course of action.

6.2.4 (b) Findings summary for Objective 2(b)

While Self-Referential Biases elevate both risk tolerance and professional source usage (albeit potentially for self-affirming purposes), Choice Dilemma is associated with a marked decline in the use of structured investment strategies, although it does not deter risk appetite directly. These insights underscore the dual and contrasting roles of different cognitive distortions in shaping financial behaviour.

6.2.5 (a) Findings Pertaining to Objective 2(c): Association between Big Five Personality Traits and Investment Behaviour.

- The final psychological construct studied under this segment involved the role of personality traits classified according to the Five-Factor Model on the investment behaviour of the respondents. The Big Five dimensions were reduced via OPCA into two latent constructs: Exploratory Traits (Extraversion, Openness to Experience) and Adaptive Sociability (Conscientiousness, Agreeableness, Emotional Stability). The results revealed that both Exploratory Traits and Adaptive Sociability significantly influenced risk capacity. Exploratory Traits ($B = 12.497$, $p < 0.001$; $\text{Exp}(B) = 267,472.396$) showed that female academics who are curious, open to experience, and socially proactive are significantly more inclined to tolerate financial risks. This suggests a personality-driven openness to opportunity and innovation in investment behaviour.
- More strikingly, the construct of Adaptive Sociability emerged as a very strong predictor of risk capacity, with a coefficient of $B = 17.973$ ($p < 0.001$) and an odds ratio of $\text{Exp}(B) = 63,897,571.51$. This extremely high magnitude of effect illustrates that respondents who are emotionally stable, disciplined, and socially agreeable are far more likely to exhibit financial resilience and risk appetite. These findings align with prior studies by Mayfield et al. (2008) and Durand et al. (2008), which establish that conscientiousness and emotional stability contribute positively to responsible and risk-oriented financial behaviour.
- Regarding investment strategy, only Adaptive Sociability had a statistically significant and positive impact ($B = 6.160$, $p < 0.001$; $\text{Exp}(B) = 473.614$). This suggests that individuals who are self-controlled, emotionally grounded, and inclined toward cooperative interaction

are more likely to rely on structured and professional investment information. Their disciplined nature supports informed, advice-based financial decisions.

- In contrast, Exploratory Traits did not show any statistically significant association with investment strategy ($B = -0.255$, $p = 0.709$). This suggests that while openness and extroversion may facilitate greater risk-taking, they do not necessarily translate to reliance on professional sources. Instead, individuals high in these traits may prefer informal networks, peer feedback, or independent learning mechanisms for financial planning.

6.2.5 (b) Findings summary for Objective 2(c):

Overall, the findings underscore that personality traits influence both dimensions of investment behaviour in differentiated ways. While Exploratory Traits drive a curiosity-led risk orientation, it is Adaptive Sociability that provides the behavioural stability required for professional, goal-aligned investment strategies.

6.2.6 (a) Findings Pertaining to Objective 3a: To assess the stated perception of female academics towards financial investment.

The sub-objective 3a sought to capture the stated perception of female academics towards financial investment, derived from descriptive analysis of their demographic profile, saving and investment behaviour, preferred avenues, objectives, sources of information, financial literacy, personality traits, cognitive biases, and digital skills. The findings provide a layered understanding of how female academics articulate and express their investment orientation.

- Demographic and financial background: Female academics are predominantly in their early to mid-career stages, with modest income levels but relatively high saving propensity. Their stated perception of investment is therefore shaped by financial prudence, security consciousness, and family responsibilities.
- Investment preferences: The majority express preference for traditional, low-risk avenues such as fixed deposits, post-office savings, insurance, and gold. Riskier instruments like mutual funds, shares, real estate, and crypto remain less popular, suggesting that the stated perception is conservative and oriented toward stability rather than speculative growth.”
- Investment objectives: Retirement planning, tax saving, and education emerged as the most cited objectives. This indicates that female academics perceive investment as a tool for security, responsibility, and intergenerational welfare, rather than wealth maximization.
- Financial literacy: Respondents displayed moderate financial knowledge, strong positive financial attitudes (emphasizing planning and long-term saving), but inconsistent financial behaviours (such as lack of concrete goals or late payments). Their perception thus reflects a gap between attitude and action in financial management.
- Personality and biases: High scores in agreeableness and conscientiousness support a perception of investment as a responsible, deliberate process.” At the same time, biases

like familiarity and confirmation reinforce conservatism, nudging academics towards known and trusted instruments.

- Risk and digital orientation: Female academics perceive themselves as moderate risk-takers, cautious about losses but not entirely risk-averse. Their high digital competence (payments, communication, research) enhances accessibility to investment platforms and can potentially broaden their exposure.

6.2.6 (b) Findings Summary for Objective 3a

The stated perception of female academics towards financial investment is characterized by financial caution, strong savings orientation, and reliance on trusted social networks, combined with a willingness to plan. However, this perception is constrained by moderate financial knowledge and cognitive biases, leading to conservative investment choices despite high digital skills and professional acumen.

6.2.7 (a) Findings Pertaining to Objective 3b: To assess the derived perception of female academics towards financial investment.

The sub-objective 3b moved beyond stated responses to derive investment perception behaviourally, using the interaction of two key dimensions: Risk Capacity (RC) and Investment Strategy (IS). This structure made possible the classification of respondents into four distinct types of investors i.e., Conservative, Cautious Planner, Aggressive but Unstructured and Proactive Investor to unveil the underlying behavioural perceptions.

Cautious Planners dominated: A large segment exhibited low risk capacity but reliance on professional or structured strategies. Their perception is that investment must be carefully planned and professionally guided, even when risk tolerance is limited. This reflects a blend of prudence and reliance on expertise.

Proactive Investors were sizable: Respondents with both high-risk capacity and high reliance on professional strategies formed another substantial group. They perceive investment as empowering, planned, and opportunity-driven, balancing risk appetite with informed decision-making.

Conservative Investors were smaller but notable: These individuals combined low risk capacity with low strategic reliance, reflecting a perception of investment as intimidating, inaccessible, or potentially unsafe. They embody the most hesitant segment, constrained more by confidence and trust barriers than by educational limitations.

Aggressive but Unstructured investors were few: This category reflects high risk capacity but weak strategic reliance, suggesting a bold yet unplanned perception of investment. Their decisions are likely shaped by intuition, peer influence, or anecdotal knowledge rather than structured analysis.

Determinants shaping perception: Logistic regression results identified four robust predictors that consistently influenced both RC and IS, thereby shaping overall derived perception:

- *Financial Attitude* – future-focused academics viewed investment as structured and necessary.
- *Digital Skills* – digitally competent respondents perceived investment as more accessible and less intimidating.
- *Adaptive Sociability* – traits like conscientiousness and emotional stability supported a responsible, positive perception.
- *Self-Referential Biases* – interestingly, these biases pushed academics to seek validation from professional sources, reflecting a complex perception of confidence mixed with cognitive shortcuts.

6.2.7 (b) Findings Summary for Objective 3b

The resulting perception is of a behaviourally segmented landscape-the risk-averse planners and aggressive investors at its heart, with rather smaller scale groups representing hesitancy or unstructured boldness. Taken all together, female academics' perceptions of investment are influenced not only by financial literacy, but rather the interaction of attitudes toward it, digital empowerment (or lack thereof), personality traits, and biases. This suggests that interventions need to work on the psychological (attitudes, norms, behaviours) and structural aspects for developing confident and inclusive investment involvement.

6.3 Objective wise Policy Recommendations

Policy Recommendations are based on significant determinants influencing Investment Behaviour of Female Academics in Kolkata District. For this study the robust determinants have been identified as the variables which are affecting both the key components of the Investment Behaviour which are Risk Capacity and Investment Strategy.

Key stakeholders who would benefit from or be involved in implementing the policy recommendations include:

1. Female Academics (Primary Beneficiaries)

- Benefit: Improved digital literacy → Greater confidence in handling finances → Smarter, more diversified investment strategies → Enhanced financial security and independence.

2. Educational Institutions (Universities & Colleges)

- Benefit: Empowered faculty are more productive, secure, and likely to be retained. Also, institutions may gain reputational value by promoting financial well-being.

3. Government & Financial Planners/Advisors (Policy Makers)

- Benefit: Contributes to national goals like financial inclusion and Digital India. More informed women investors lead to healthier, more stable investment ecosystems.

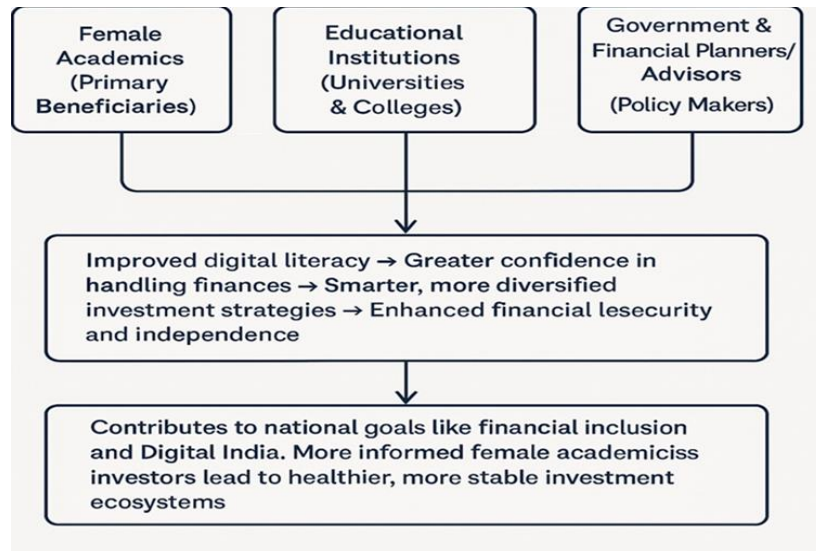


Figure 40 Key Policy Stakeholders Diagram [Researchers own compilation]

6.3.1 Policy Recommendations pertaining to study findings of Obj. 1(a)- To study the level of financial literacy of the respondents on their investment behavior.

“Robust determinants identified: *Financial Attitude (sub construct of Financial Literacy)*

- University/college needs to partner with national governments to encourage discipline saving among female academics by providing tax breaks or small grants to them to facilitate long term financial planning. Moreover, if mandatory salary deduction is included into long-term investment vehicles such as PPF/NPS, it will inculcate good saving habits and enhance financial outlook and security. That would help in instilling financial discipline and steady accumulation of wealth for future eventualities.
- Organized workshops on planning for long-term financial future and budgeting for female faculty in partnership with certified financial planners by Higher Education Institutions. Such programs should include elements of peer support and role modelling to facilitate consistent financial engagement and achievement of the attitudinal dimensions of financial literacy and planning.
- Higher Education Institutions should provide female academics with free or subsidized access to financial planning software or apps that would help them develop and track their long-term financial goals. Digital tools simplify planning and make long-term goal tracking more accessible.”
- Academic institutions should integrate financial attitudes, such as commitment to long-term saving and planning, into the performance evaluation criteria for female faculty members to promote holistic professional development and financial awareness. This aligns personal financial well-being with professional growth and accountability.
- The government, in collaboration with financial institutions and universities, should launch media campaigns to promote long-term saving and financial planning among female academics. Mass awareness campaigns reduce stigma and encourage proactive financial behaviour.

Summary of Policy Recommendation 1(a):

The policy recommendations proposed in this study, which focus on improving financial attitudes among female academics, align with global trends that aim to increase financial literacy and empower women to make informed financial decisions. By adopting these recommendations, stakeholders particularly female academics, the government, and financial planners will benefit from a more financially secure, independent, and confident academic workforce. On a broader scale, these policies will help close the gender financial gap, contributing to societal stability, economic growth, and greater gender equality.

6.3.2 Policy Recommendations pertaining to study findings of Obj. 1(b) To study the level of digital skills of the respondents on their investment behavior.***Robust determinants: Digital Skill***

- Government should introduce a Digital-FinEd (Financial-Education) for Educators program to enhance the digital and financial literacy of female academics in higher education. The program should include modules on: Using digital investment tools (apps, platforms, fintech), Risk profiling with AI/ML tools and Cybersecurity in personal finance. Female academics are already educated but may not be digitally confident or aware of financial tools. This program will help female educators build practical skills and confidence in using digital tools, so they can make smarter, safer, and more informed financial decisions.
- The government should collaborate with regulatory and financial institutions such as SEBI, RBI, and BSE to develop certified online masterclasses on digital investment for women in academia. “These modules should cover key topics in modern investing and be accessible in flexible formats. To encourage participation, the program should offer financial incentives such as tax rebate coupons or cash-back on investment for successful course completion. Learning based incentives can motivate even the cautious investors to upskill digitally, while ensuring practical application.
- Higher Education Institutions can design Digital Skills Refresher and Orientation Programs specifically for female academics to build their confidence and expertise in using digital financial tools. These programs should provide hands-on training on secure investment platforms, online banking, and accessing government financial portals.

Summary of Policy Recommendation 1(b):

The development of online competences among women academics is crucial to promote informed, autonomous, and futuristic investment conduct. Whilst extant national programmes have been effective at reaching rural and community-based populations, there is an evident policy vacuum in focusing upon the needs of urban academic-educated women professionals. The proposed interventions ranging from tailored digital-financial literacy programs to institutional refresher modules directly respond to this need, empowering female educators to confidently engage with digital financial tools. By enhancing digital fluency, these policies will not only boost individual financial well-being but also contribute to broader goals of financial inclusion, gender equity, and a digitally skilled academic workforce.

6.3.3 Policy Recommendations pertaining to study findings of Obj.2(a) To investigate the existence of association between Cognitive biases and the investment behaviour of the respondents.

Robust determinants identified: Self-Referential Bias.

In line with the empirical findings of the study, which examined the influence of *Self-Referential Bias* measured through cognitive biases on the investment behaviour of female academics, the significant traits that emerged are Anchoring Bias, Confirmation Bias, Overconfidence Bias, Familiarity Bias, and Self-Serving Bias.

- Financial institutions and Higher Education Institutions should offer tailored financial counselling sessions that specifically address biases such as overconfidence and familiarity bias during portfolio design for female academics. “This targeted approach will help women recognize and manage their biases, leading to more balanced and effective investment strategies.
- Academic institutions should develop behavioural simulation labs where female academics can engage in virtual investment scenarios to experience firsthand how cognitive biases influence financial decisions. Experiencing simulated investment challenges will raise awareness of biases, improving decision-making skills in real investment contexts.
- Government financial literacy programs should include dedicated modules focusing on key biases Anchoring, Confirmation, Overconfidence, Familiarity, and Self-Serving Bias tailored for women in academia. Incorporating these modules will empower female academics to identify and counteract biases, promoting more rational investment choices.
- Higher Education Institutions should encourage female academics to maintain reflective financial decision journals that document both successful and unsuccessful investments to reduce self-attribution bias. (Self-Serving Bias) Keeping such records fosters honest self-assessment, helping investors learn from past mistakes and avoid overestimating their abilities.
- Government should promote national awareness campaigns aimed at educated women, emphasizing evidence-based investing and discouraging emotionally-driven financial decisions. Such campaigns will nurture a culture of rational investing, enhancing financial stability and long-term wealth creation among women.”
- Universities should organize workshops to teach female academics how to set flexible, data-driven investment benchmarks rather than relying on fixed initial references. This will encourage adaptive investment strategies that better respond to changing market conditions and help in mitigating the effects of the bias. (Anchoring Bias)
- Academic institutions should promote peer discussion groups where female academics critically evaluate diverse investment viewpoints to challenge and refine their assumptions. These circles will enhance critical thinking and reduce confirmation bias, leading to more open-minded and informed investment decisions. (Confirmation Bias)

- Financial literacy programs should include training where female academics compare their investment predictions against actual market outcomes to highlight overconfidence gaps. This practice will help participants develop realistic expectations and more cautious investment behaviour. (Overconfidence Bias)
- Institutions should offer guided sessions in collaboration with financial experts introducing female academics to unfamiliar yet reliable financial products and markets outside their usual investment scope. Expanding exposure will diversify portfolios and reduce risk by minimizing reliance on familiar but limited investment options. (Familiarity Bias)

Summary of Policy Recommendation 2(a):

While India's current financial education initiatives like NSFE 2020–2025 and NCFE programs promote general financial awareness, they lack targeted interventions for addressing self-referential biases among female academics. This study fills that critical gap by proposing focused, actionable strategies to mitigate biases like anchoring, confirmation, and overconfidence specifically for female academics. These policy contributions will enhance rational financial decision-making, foster financial independence, and strengthen the long-term financial security of women in academia.

6.3.4 Policy Recommendations pertaining to study findings of Obj. 2(b) To investigate the existence of association between Big Five Personality traits (Five-Factor Model) and the investment behavior of the respondents.

Robust determinants identified: Adaptive Sociability

In line with the empirical findings of the study, which examined the influence of Adaptive Sociability—measured through personality traits—on the investment behaviour of female academics, the significant traits that emerged are Agreeableness, Conscientiousness and Emotional stability.

- Higher Education Institutions should establish voluntary investment clubs for female academics, enabling members to collectively invest small pooled funds in low-risk instruments such as balanced funds, conservative mutual funds, or government bonds. These clubs should promote collaborative, consensus-based decision-making that aligns with personality traits like agreeableness and emotional stability. *Example Activity:* Monthly meeting where professional financial advisors (certified by SEBI) explain options and allow group voting. This initiative will foster financial participation in a supportive, low-pressure environment, encouraging cautious yet confident investing among female faculty.
- Government, in partnership with leading banks such as SBI, Axis Bank, or IDFC First, should promote the development of low-volatility, moderate-return investment products tailored to the financial behaviour of female academics. The features these products need to include are: Incentives to continue consistent investing, to reward conscientious behaviour, flexibility of withdrawal or pause without penalty, to allow emotional resilience in the face of financial stress. This project will render investment more accessible and

viable by aligning the financial services with the psychological and behavioural profiles of women in academics.

- Financial advising in Higher Education Institutions should be replaced by financial care counselling services on campus. These sessions must be designed to suit the personality factors including high agreeableness and emotional stability because they could be responsive to trust-based and collaborative surroundings. This enabling strategy will help to build trust, ease financial anxiety, and promote informed investment behaviour among the female academics.

Summary of Policy Recommendation 2(b):

While existing financial services provide general assistance, they usually fail to address the special psychological and social needs of female academics. This policy helps to fill that gap by encouraging collaborative investment, financial products with a personality, and counselling that is empathetic to their unique characteristics. These will instil financial confidence, minimize anxiety, and promote lasting and informed investment habits that ultimately empower female academics to be more financially stable and self-reliant.

6.4 Recommendations

Current study offers valuable behaviour-based insights on financial investment decision making of female academicians in Kolkata by explaining how the financial literacy, digital literacy, cognitive biases, personality traits, and socio-economic characteristics work together to determine their risk capacity and investment strategy. And while there have been extensive objective content summaries of policy recommendations, a more top-down, or synthesizing process is needed to bring such category-specific recommendations into the realm of broader system-level change. These consolidated suggestions are developed for institutions, policy-makers, financial educators, and future researchers to create a more inclusive, psychologically-informed, and digitally poised financial ecosystem in India for educated women professionals. The first recommendations are based on the result that financial attitude is the most influential sub-component of financial literacy when compared with financial knowledge or behaviour for both risk capacity and investment style. This seems to indicate the necessity to reinforce an orientation toward the future and planning and goal-setting within financial education. Financial attitude development should be incorporated into faculty development programs through formalized financial wellness programs in higher education. These could range from programs on long-term saving, budgeting, and goal-targeted investing, taught by certified financial professionals. In addition, institutional saving policies, for example, salary-linked PPF/NPS contributions or matched saving systems should be institutionalized to inculcate discipline in the regular academic life of the institution. Integrating financial attitude assessment into faculty self-appraisal or development reviews may also normalize financial planning as part of professional growth. Additionally, university HR departments should offer personalized goal-setting services, helping female faculty design investment plans tied to career progression, retirement, and familial responsibilities. These integrated interventions will strengthen women's sense of financial agency and align their professional and personal aspirations with structured financial action.

Closely tied to financial attitude is the role of digital skills, which the study found to be a powerful predictor of both risk tolerance and strategic investment behaviour. However, national digital literacy missions typically focus on rural or underbanked populations and have overlooked educated urban professionals who may still lack confidence in navigating fintech tools. To address this gap, a dedicated initiative such as *DigitalFin-Ed for Educators* can be launched in collaboration with SEBI, RBI, and Ministry of Education. “This program should include interactive modules on digital investment platforms, government savings schemes, AI-enabled risk profiling, cybersecurity, and digital record-keeping, all designed with the learning preferences of academic professionals in mind. These modules must be accessible, self-paced, and offered in local languages to improve reach. To promote uptake, financial incentives such as tax rebates, digital investment credits, or cash-back rewards may be offered upon course completion. At the institutional level, universities should organize regular digital refresher sessions and orientation programs to help faculty apply these skills practically. These efforts will ensure that digital access is translated into digital agency and that female educators are empowered to independently evaluate, initiate, and monitor their financial decisions in an increasingly digital economy.

The study also established the significant influence of self-referential cognitive biases including overconfidence, anchoring, familiarity, confirmation, and self-serving biases on both dimensions of investment behaviour. These biases operate unconsciously and are not typically addressed in traditional financial education. To mitigate this, financial institutions and academic bodies must incorporate behavioural interventions into their outreach and advisory services. Academic institutions should consider setting up behavioural finance labs or investment simulation environments, where faculty members can engage with interactive scenarios and receive feedback on how biases affect their financial decisions. Such experiential learning will promote deeper self-awareness and reduce reliance on mental shortcuts. Additionally, financial counselling services on campus or through partnerships with SEBI-certified advisors should introduce diagnostic tools that help female academics recognize their bias profiles before making major investment decisions. Institutions can also encourage faculty to maintain reflective financial journals documenting the rationale and outcomes of their past investment choices, thereby reinforcing accountability, and reducing self-attribution errors. On a broader scale, mass awareness campaigns targeting urban, educated women should emphasize the importance of rational, data-backed investing while explicitly addressing common behavioural distortions. These campaigns can help de-stigmatize investment discussions and encourage open engagement with financial advisors.

Another core insight of the study lies in the predictive role of personality traits, particularly the composite trait of *Adaptive Sociability* which includes emotional stability, conscientiousness, and agreeableness. Respondents with these traits were significantly more likely to exhibit high risk tolerance and seek professional investment advice. This finding reinforces the need for financial services to move beyond demographic profiling and integrate psychological segmentation into product design and investor engagement. Higher education institutions should explore the creation of voluntary *faculty investment clubs* or cooperative saving groups where members can make group-based decisions in low-risk financial instruments such as government bonds or balanced mutual funds. These environments offer emotional safety, peer

learning, and trust-based decision-making factors that resonate with personality profiles inclined toward consensus, order, and emotional control. Financial institutions, in collaboration with universities, can design investment products tailored to such profiles by offering stability-linked incentives, flexible contribution structures, and built-in emotional safeguards (e.g., no-penalty withdrawal options during periods of stress). Finally, university campuses should replace transactional advisory booths with *financial care services* where trusted advisors offer empathy-driven, personalized guidance. Such initiatives will reduce financial anxiety and build confidence among cautious but capable investors.

Beyond these behavioural and institutional recommendations, the study also invites future research and policy development. While the current research is geographically limited to Kolkata and focused on female academics, the conceptual framework can be applied across different cities, occupations, and social strata. Future research should adopt longitudinal designs to examine how variables like digital proficiency, financial attitudes, or bias mitigation evolve over time and influence investment resilience. Additionally, intersectional factors such as caregiving responsibilities, gendered institutional roles, and intra-household financial dynamics should be explored to develop deeper understanding of financial behaviour among working women. From a policy standpoint, ministries such as Women & Child Development, Higher Education, and Finance must collaborate to create integrated financial inclusion policies that address psychological, digital, and social barriers to investing for professional women.

In conclusion, the recommendations presented in this study move beyond technical or knowledge-based interventions and call for a systemic shift in how financial literacy, digital empowerment, behavioural biases, and personality traits are understood and addressed in the context of women's financial engagement. By adopting a psychologically sensitive, institutionally supported, and digitally enabled approach, stakeholders can build a more inclusive and behaviourally intelligent financial ecosystem. Such an ecosystem will not only enhance the financial well-being of female academics but also contribute meaningfully to national goals related to gender equity, economic resilience, and social development.

6.5 Conclusion

In any empirical inquiry, the concluding section performs a pivotal role by offering closure, reaffirming the research focus, and encapsulating the broader intellectual contribution of the study. It provides an opportunity to deviate from technical specificities and revisit the research from a panoramic viewpoint summarizing its central arguments, revisiting its scholarly intent, and highlighting its relevance for future discourse (Bunton, 2005).

The following section seeks to address this by bringing together some of the key findings of the research on the investment behaviour of female academics in the Kolkata district and its more general theoretical and policy articulations.

At the heart of this research was our belief that investment behaviour is a complex phenomenon which is not determined solely by financial knowledge or demographic characteristics, but is largely driven by attitudinal dispositions, digital skills, cognitive biases, and personality factors. Building on this understanding, the research constructs a detailed empirical framework

examining how these variables interact to affect two behavioural targets Risk Capacity (RC) and Investment Strategy (IS) among educated women professionals.

Using robust quantitative methods including Ordinal Principal Component Analysis, logistic regression models, and other statistical techniques, the study arrived at a nuanced set of empirical findings, which support and challenge known reader behaviour in the literature on the behavioural finance topic.

Fulfilment of the first objective clarified the effect of disaggregated financial literacy comprising knowledge, behaviour, and attitude on investment behaviour. Of these factors, financial attitude was the single strong predictor associated with risk capacity and investment strategy. Individuals who had strong attitudes toward long-term planning, disciplined saving and future-oriented financial goals were substantially more likely to be willing to take informed financial risk and to trust professional advice channels.

This inference which is supportive of the fact that financial education should then be reshaped not only as knowledge enhancement rather as the assimilation of values and attitude important for wealth creation. The stakes are high financial education programs need to be more than just technical training, but incorporate attitudinal change to have a lasting effect on women's financial empowerment.

The second part of objective 1, which assessed the impact of digital skills, revealed equally compelling insights. Digital proficiency was seen as a strong enabler of financial participation. The study found that female academics with strong digital skills were exponentially more likely to show risk-taking behaviour and utilize professional sources of investment advice. This under rules the role of digital literacy not just as a technical asset but as a psychological catalyst that enhances confidence, reduces dependency on intermediaries, and expands access to diversified financial products. While our country has made significant strides in expanding digital infrastructure, its application in advancing the financial autonomy of urban professional women remains underexplored. This study brings that policy blind spot into sharper focus and recommends targeted interventions to bridge the digital confidence gap among educated women.

The second strand of analysis addressed cognitive biases, particularly self-referential tendencies such as overconfidence, anchoring, confirmation bias, familiarity bias, and self-serving bias. These psychological distortions were found to significantly impact investment strategy. Interestingly, many of these biases led respondents to seek validation from professional sources not necessarily for learning, but for reinforcement of existing beliefs. This subtle interaction between bias and behaviour affirms the propositions of behavioural finance theorists like Tversky and Kahneman (1974), while also highlighting the necessity for behavioural modules in financial education. Educated individuals, despite their formal learning can still fall into heuristics and psychological traps. The findings strongly advocate for the inclusion of behavioural recalibration techniques such as investment simulations, self-assessment journals, and peer-discussion forums in institutional financial counselling services.

Objective 2 also explored the role of personality traits, based on the Big Five Model, in determining investment behaviour. The analysis identified a composite factor labelled

Adaptive Sociability, encompassing agreeableness, conscientiousness, and emotional stability, as a significant predictor of both behavioural outcomes. Female academics who scored high on this factor demonstrated a greater propensity to take calculated investment risks and engage with professional financial strategies. This suggests that investment decisions are not merely rational economic choices but are deeply embedded in the individual's emotional disposition and social tendencies. The result opens new avenues for personality-aligned financial product design and advisory services that respond empathetically to an individual's psychological profile. Such personalization is especially crucial in enhancing investment participation among groups that are typically cautious, collaborative, and risk-aware.

The final objective aimed to understand the perception of female academics toward financial investment, captured behaviourally through their risk capacity and strategy use. The stated perception of female academics toward financial investment reflected a broadly positive outlook. Respondents recognized the significance of financial planning, savings, and investment as essential for ensuring security and long-term growth. Their views revealed an openness to participate in financial decision-making, while also acknowledging certain structural and institutional constraints. Overall, investment was not seen as peripheral but as integral to both professional advancement and personal stability. The derived perception, assessed through behavioural patterns of risk capacity and investment strategy, highlighted four investor segments: Conservative Investor, Cautious Planner, Aggressive but Unstructured, and Proactive Investor. Most respondents fell into the latter two categories, reflecting a forward-looking orientation toward structured and responsible investment participation. Contrary to stereotypes of female investors as inherently risk-averse or financially disengaged, the study revealed that when equipped with the right tools, confidence, and supportive environment, educated women demonstrate high levels of financial maturity and intent.

Taken together, the stated and derived perceptions challenge conventional stereotypes of women as inherently risk-averse or financially disengaged. Instead, the findings affirm that with access to appropriate tools, confidence, and supportive environments, educated women demonstrate significant financial maturity, strategic intent, and willingness to engage. Their perception, in essence, is influenced not by fear but by the enabling factors that reduce informational, psychological, and institutional barriers. Thus, the overall perception of female academics toward financial investment may be characterized as positive, engaged, and future-oriented.

Altogether, the study implies that improving investment behaviour among women in academia requires more than access or awareness. It demands the development of internal behavioural readiness, external institutional support, and system-level reforms. The study concludes with the recognition that empowering female academics financially is not only a matter of personal well-being but a strategic imperative for achieving broader goals of gender equity, financial inclusion, and national development. As India moves toward a knowledge-based, digitally enabled economy, investing in the financial empowerment of women educators will have a multiplier effect—not just for individual households but for society at large.

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ANNEXURE I

Questionnaire

Respected Ma'am,

This is with reference to my doctoral research study entitled "A Study on Factors Affecting Investment Behaviour of Female Academics in Kolkata District."

The following document contains the final structured questionnaire used for the collection of primary data for the aforesaid study. The research is being conducted by Ms. Payal Sharma, Research Scholar, Department of Ph.D. Programmes (Commerce), St. Xavier's College (Autonomous), Kolkata, under the supervision of Dr. Madhu Agnihotri, Assistant Professor, Post Graduate and Research Department of Commerce, St. Xavier's College (Autonomous), Kolkata.

The purpose of this questionnaire is to gather authentic and reliable information on the investment behaviour, financial literacy, cognitive biases, digital skills, and personality traits of female academicians across various higher education institutions in Kolkata District. The study seeks to understand how these factors collectively influence financial decision-making and investment choices among women in academia.

The responses obtained through this survey will be used strictly for academic and research purposes and will be treated with complete confidentiality. Your thoughtful and honest responses will significantly contribute to the quality and validity of this study.

1. Name of the Institute *

2. Type of Institution (Mark only one oval.)

☐ Government ☐ Autonomous ☐ Government Aided ☐ Private/Self-Financed

3. Age: *

☐ Up to 30 yrs ☐ 31-40 yrs ☐ 41-50 yrs ☐ 51-60 yrs ☐ Above 60 yrs

4. Discipline of study: * (Mark only one oval.)

☐ Commerce and Management ☐ Science & Technology ☐ Arts and Humanities

☐ Education & Physical Education

5. Highest educational qualification: *

☐ Post Graduate ☐ PhD ☐ Post Doc Other: _____

6. Years of experience: *

☐ 0-5 yrs ☐ 5-10 yrs ☐ 10-15 yrs ☐ 15-20 yrs ☐ Above 20 yrs

7. Nature of Appointment: *

☐ Contractual ☐ Permanent ☐ Visiting ☐ Part Time

8. Marital Status: *

☐ Married ☐ Unmarried ☐ Divorced ☐ Widow

9. Monthly Income: *

☐ Less than 25000 ☐ 25000-50000 ☐ 50000-75000 ☐ 75000-100000 ☐ Above 1 lakh

10. What portion of your Income do you save *

☐ Less than 10% ☐ 10-30% ☐ More than 30%

11. Do you invest your savings *

☐ Yes ☐ No

12. If you do not Invest, select the reasons, SKIP OTHERWISE (Tick all that apply.) *

☐ Prefer Cash in hand ☐ Lack of knowledge about investment ☐ Overburdened with expenses ☐ Fear of taking risk ☐ Investment seems very confusing ☐ Other: _____

13. What portion of your savings do you Invest *

☐ Less than 10% ☐ 10-30% ☐ 30-50% ☐ More than 50%

14. Which of the following are the most preferred investment alternatives for you? (You can select more than one option.) *

☐ Shares ☐ Insurance and pension plan ☐ Gold & Silver (precious metals) ☐ Real estate
☐ Mutual Funds ☐ Post office saving schemes ☐ Fixed Deposit ☐ Crypto Assets ☐
Debentures & Bonds ☐ Other: _____

15. Select the objectives of your investments (Tick all that apply) *

☐ Marriage ☐ Buy house/property ☐ Retirement planning ☐ Tax planning ☐ Education
of family members ☐ Other: _____

**16a. Please rate the following sources of information preferred by you while investing.
(Mark only one oval per row.) ***

Sources of Information	Not Preferred	Less Preferred	Neutral	Preferred	Most Preferred
Family, friends, and relatives	☐	☐	☐	☐	☐
Information from existing investors	☐	☐	☐	☐	☐
Certified financial planner	☐	☐	☐	☐	☐
Financial newspapers and electronic media	☐	☐	☐	☐	☐
Brokers, advisors, agents, and financial analysts' recommendations	☐	☐	☐	☐	☐
Published reports from research agencies	☐	☐	☐	☐	☐
Conversation with Professional colleagues	☐	☐	☐	☐	☐

16b. Please rate the following statements: *

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
When an investor spreads his money among different assets, the risk of losing	☐	☐	☐	☐	☐

money
decreases.

An ☐ ☐ ☐ ☐ ☐ ☐

investment
with a high
return is
likely to be
riskier.

Having a ☐ ☐ ☐ ☐ ☐ ☐

financial
plan is very
important.

I find it more ☐ ☐ ☐ ☐ ☐ ☐

satisfying to
save money
for long term
than to
spend it.

I do not pay ☐ ☐ ☐ ☐ ☐ ☐

my bills on
time.

I do not set ☐ ☐ ☐ ☐ ☐ ☐

long term
financial
goals and
strive to
achieve
them.

17. You define yourself as: * (Mark only one oval per row)

Personality Trait	Strongly Disagree	Moderately Disagree	Neither Agree nor Disagree	Agree a little	Moderately Agree	Strongly Agree
Sociable & Enthusiastic	☐	☐	☐	☐	☐	☐

Critical & Quarrelsome	☐	☐	☐	☐	☐	☐
Reliable & Self-discipline	☐	☐	☐	☐	☐	☐
Anxious & get easily upset	☐	☐	☐	☐	☐	☐
Open to new experiences, Complex	☐	☐	☐	☐	☐	☐
Reserved and Quiet	☐	☐	☐	☐	☐	☐
Sympathetic & warm towards people and situations	☐	☐	☐	☐	☐	☐
Disorganized & Careless	☐	☐	☐	☐	☐	☐
Calm & emotionally stable	☐	☐	☐	☐	☐	☐
Conventional & not so creative	☐	☐	☐	☐	☐	☐

18. Select the most appropriate option for the following: * (Mark only one oval per row.)

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
While taking Investment decisions,					
You rely on the first piece of	☐	☐	☐	☐	☐

information
offered.

You prefer
information
that
confirms to
your existing
beliefs.

☐☐☐☐☐

You believe
that your
skills and
knowledge
of
investment
avenues can
help you
outperform
in the
financial
market.

☐☐☐☐☐

You are
confused
because you
have two or
more
conflicting
ideas and
beliefs.

☐☐☐☐☐

You tend to
make
investment
in only
familiar
Investment
options.

☐☐☐☐☐

You attribute
success to
yourself and

☐☐☐☐☐

failure to
others or
external
factors.

You are
confused
due to
availability
of many
investment
options.

☐☐☐☐☐

19. Select the appropriate option relating to your Investment Decisions. (Mark only one oval per row)

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
You would not prefer to sell off entire investments when the actual returns fall below expected returns.	☐	☐	☐	☐	☐
You would prefer to take maximum risk while you take an investment decision.	☐	☐	☐	☐	☐
Your approach is highly aggressive	☐	☐	☐	☐	☐

while you
take an
investment
decision.

20. Select the appropriate options relating to your basic Digital Skills. * (Mark only one oval per row)

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
You are highly competent in using digital devices like Mobile, Laptop, Tabs etc.	☐	☐	☐	☐	☐
You are highly proficient in using search engines like Google, Bing, Yahoo etc. to find any information and reviews.	☐	☐	☐	☐	☐
You can comfortably communicate through WhatsApp chat, SMS, Email etc.	☐	☐	☐	☐	☐
You can easily use online payment	☐	☐	☐	☐	☐

apps for
more than
50% of your
transactions.

You have
been actively
using Email
for more
than 5 yrs.

☐☐☐☐☐

ANNEXURE II

SIMILARITY INDEX REPORT



Page 1 of 233 - Cover Page

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