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INSTITUTIONAL HUMAN ETHICS COMMITTEE

Avinashilingam

Institute for Home Science and Higher Education for Women
(Deemed to be university under Category 'A' by MHRD, Estd. u/s 3 of UGC Act 1956) Re-accredited with 'A^{++}' Grade by NAAC.
Recognised by UGC Under Section 12 B
Coimbatore- 641043, Tamil Nadu, India

05.01.2023

To
Ms.Mageswari, S.S.
Department of Commerce
Avinashilingam Institute for Home Science and Higher Education for Women
Coimbatore- 641043

Dear Mageswari,

Ref: Your proposal No. IHEC/22-23/COM-06 entitled "Determinants of Trading Behaviour of Retail Investors in Derivative Market" submitted for approval of IHEC on 19.11.2022.

The Institutional Human Ethics Committee of our University hereby grants approval to your research proposal No.IHEC/22-23/COM-06 entitled "Determinants of Trading Behaviour of Retail Investors in Derivative Market". The Approval number for the same is AUW/IHEC/COM-22-23/XMT-06.

We wish you all the best in your research endeavours.

Regards

5.1.23

Dr. A Thirumani Devi
Member Secretary

Institutional Human Ethics Committee

QUESTIONNAIRE

1. Please select any **ONE** of the following:

I always trade to protect against price fluctuations in commodities or financial instruments	☐
I often buy assets for a short period and use strategies to profit from changes in their price	☐
I always try to make a profit from market inefficiencies	☐
I always borrow money from a brokerage firm to make investments	☐

2. What is your percentage of savings out of your total income?

a) Less than 5% b) 6%-10% c) 11%-15% d) 16%-20% e) More than 20%

3. How much percentage would you like to invest in securities and derivative markets out of your savings?

a) Less than 5% b) 6%-10% c) 11%-15% d) 16%-20% e) More than 20%

4. Rate the preference to invest in products of the Derivative Market.

Equity Derivatives		**Commodity Derivatives**		**Currency Derivatives**	
a) Stocks futures	☐	a) Gold	☐	a) USD – INR	☐
b) Stock options	☐	b) Silver	☐	b) USD – JPY	☐
c) Index Futures	☐	c) Crude Oil	☐	c) USD – GBP	☐
d) Index options	☐	d) Natural Gas	☐		
e) Options writing	☐				
f) Call option	☐				
g) Put option	☐				

5. State the level of opinion on various objectives influencing you to invest in the Derivative Market.

Particulars	Extremely Influential	Very Influential	Somewhat Influential	Slightly Influential	Not at all
Maximization of return	5	4	3	2	1
Minimization of risk	5	4	3	2	1
To ensure the principal investment	5	4	3	2	1
Hedge against inflation	5	4	3	2	1
Make speculative profit	5	4	3	2	1
Set off previous investment losses	5	4	3	2	1
Hedging	5	4	3	2	1
Investment leverage	5	4	3	2	1
Arbitrage	5	4	3	2	1
Liquidity in the Market	5	4	3	2	1
More transparent growth	5	4	3	2	1
More rapid Market movements	5	4	3	2	1
Longer trading hours	5	4	3	2	1
Wider variety of products	5	4	3	2	1

6. Have you experimented with any of the following methods to trade in the Derivative Market?

a) Fundamental Analysis b) Technical Analysis

c) Both A & B d) Expert's Advice

e) All the above

7. Where do you get various information about Derivative Market?

a) Business News like CNBC, NDTV Profit b) Investment Website

c) Professional Advisor d) Family and Friends

e) Magazine/ Newspapers f) Books

8. Which exchange do you mostly prefer to trade in a Derivative contract?

a) NSE b) BSE c) MCX – SX

9. The most influencing reasons to trade in that particular exchange

a) The trading volume is higher, which means there are more buyers and sellers on the exchange

b) Offers a legacy of high-speed trading

c) The bullion and energy futures markets benefit from high earnings visibility and a lack of competition.

d) Fair and orderly trading and the efficient dissemination of price information for any securities trading

10. Which sector do you prefer to trade in Derivatives?

(SA – Strongly Prefer; MP – Moderately Prefer; N – Neutral; SP – Slightly Prefer; NP – Not Preferable)

Sectors	**SA**	**A**	**N**	**DA**	**SDA**
Agricultural sector	5	4	3	2	1
Banking sector	5	4	3	2	1
Automobile sector	5	4	3	2	1
Pharma sector	5	4	3	2	1
FMCG sector	5	4	3	2	1
IT sector	5	4	3	2	1
Service sector	5	4	3	2	1
Energy sector	5	4	3	2	1
Real estate sector	5	4	3	2	1
Healthcare sector	5	4	3	2	1
Manufacturing sector	5	4	3	2	1

12. Awareness of investors towards Derivative Market terminologies.

(EA – Extremely Aware; MA – Moderately Aware; SA – Somewhat Aware; SA – Slightly Aware; NAA – Not at all Aware)

Products	**EA**	**MA**	**SA**	**SA**	**NAA**
Long position	5	4	3	2	1
Short position	5	4	3	2	1
Spot contract	5	4	3	2	1
Expiration	5	4	3	2	1
Market maker	5	4	3	2	1
Bid-ask spread	5	4	3	2	1
At the money	5	4	3	2	1
In the money	5	4	3	2	1

Out of the money	5	4	3	2	1
Market lot	5	4	3	2	1
Time decacy	5	4	3	2	1
Spotless	5	4	3	2	1

13. Specify your level of satisfaction while trading in Derivative Market

(HS – Highly Satisfied; S – Satisfied; N – Neutral; DS – Dissatisfied; HDS – Highly Dissatisfied)

Particulars	**HS**	**S**	**N**	**DS**	**HDS**
Fluctuations in the Market are less than equity Market	5	4	3	2	1
Transparency of information	5	4	3	2	1
Rate of return	5	4	3	2	1
Risk involvement	5	4	3	2	1
Availability of many options	5	4	3	2	1
Updated information through electronic media	5	4	3	2	1
The investor's education program of SEBI	5	4	3	2	1
Tax exemption	5	4	3	2	1
Transaction process while trading	5	4	3	2	1
Derivative Market is unsafe and risky	5	4	3	2	1
Rolling contract	5	4	3	2	1
Margin amount payable	5	4	3	2	1
Brokerage fees are low	5	4	3	2	1

14. Mention the factors influence while trading in the Derivative Market.

Particulars	**Extremely Influential**	**Very Influential**	**Somewhat Influential**	**Slightly Influential**	**Not at all**
Flexibility	5	4	3	2	1
Ease of use	5	4	3	2	1
Underlying assets	5	4	3	2	1
Affordable lot price	5	4	3	2	1
Safety	5	4	3	2	1
Hedging risk	5	4	3	2	1
Return rate	5	4	3	2	1

More reliable	5	4	3	2	1
Transparency	5	4	3	2	1
Convenience	5	4	3	2	1

15. Mention the level of opinion towards the following Personality Traits

CA – Completely Agree; A- Agree; N-Neutral; DA-Disagree; CDA- Completely Disagree

Traits	**Statements**	**CA**	**A**	**N**	**DA**	**CDA**
Openness	I am very careful in planning and selecting a suitable investment	5	4	3	2	1
	Derivatives need low investment which influenced me to invest	5	4	3	2	1
	Wish to get suggestions for investment decisions from professionals	5	4	3	2	1
	I strongly believe that we can make good returns only when we take some risks	5	4	3	2	1
	I try to make some return immediately after any losses in derivative market	5	4	3	2	1
Conscientiousness	I tend to be more of a listener than a speaker.	5	4	3	2	1
	I am highly attentive to details and capable of making decisions independently.	5	4	3	2	1
	My theoretical knowledge supports me to trade	5	4	3	2	1
	I analyse my past experience before trading	5	4	3	2	1
	I am capable to invest in various financial instruments to make profits in derivative market	5	4	3	2	1
Extraversion	I prefer to invest in innovative products	5	4	3	2	1
	It is difficult to manage the risk but I’m quite okay with the returns	5	4	3	2	1
	I feel the practical experience is enough to invest in Derivative Market	5	4	3	2	1
	Derivative contracts are flexible enough to allow us to deal with a variety of trades	5	4	3	2	1
	Feel comfortable making my own investment decision and not following others	5	4	3	2	1

Agreeableness	I generally place trust in the information I receive.	5	4	3	2	1
	Heavy lot size should be reduced to increase participation in the Market	5	4	3	2	1
	I do not keep any exposure limit when trading in the derivative market	5	4	3	2	1
	Always decide to take a risk based on the underlying exposure in derivative Market	5	4	3	2	1
	Decide based on liquidity which gives more information and profit	5	4	3	2	1
Neuroticism	I rely entirely on my financial advisor and have little knowledge of financial matters myself.	5	4	3	2	1
	I tend to be careless and unorganized	5	4	3	2	1
	I tend to postpone my financial decisions if I face any loss	5	4	3	2	1
	My decision of buying/sell greatly relies on my personal intuition	5	4	3	2	1
	I become risk averse after prior loss	5	4	3	2	1

16. Mention the level of opinion towards the following statements of attitude.

CA – Completely Agree; A- Agree; N-Neutral; DA-Disagree; CDA- Completely Disagree

Attitude	**Statements**	**CA**	**A**	**N**	**DA**	**CDA**
Risk	I view myself as someone who is willing to take on high risks.	5	4	3	2	1
	I consider risk in investment as an opportunity	5	4	3	2	1
	In the investment process, I wouldn't mind losing some money	5	4	3	2	1
	It is a risky decision to invest in Derivative Market	5	4	3	2	1
	I am sure that derivative is the right choice of investment	5	4	3	2	1
	Derivatives have an uncertain future	5	4	3	2	1
	I think investing in Derivatives is highly risky	5	4	3	2	1
	It is important to avoid monetary losses	5	4	3	2	1
	Money is the most important tool for all my hopes	5	4	3	2	1
	Good investment depends on how much money you have	5	4	3	2	1

Money	Having a lot of money means having lots of opportunities	5	4	3	2	1
	I am much more of a saver than a spender	5	4	3	2	1
	I enjoy investing in innovative products to impress others	5	4	3	2	1
	Even thinking about my money makes me anxious	5	4	3	2	1

17. Mention the level of opinion towards the following Financial Literacy, Self – Efficacy and Intention to invest

CA – Completely Agree; A- Agree; N-Neutral; DA-Disagree; CDA- Completely Disagree

Variables	**Statements**	**CA**	**A**	**N**	**DA**	**CDA**
Financial Literacy	I have complete knowledge of the Derivative Market	5	4	3	2	1
	I check the financial statements of the company for the past 5 years before investing	5	4	3	2	1
	Considering most familiar sectors while investing	5	4	3	2	1
	I know how to monitor the fluctuation in the market	5	4	3	2	1
	I am aware of the prices of the particular stock in a day	5	4	3	2	1
Self-Efficacy	I always stick to my spending plan when unexpected expenses arise	5	4	3	2	1
	I try to make progress toward my financial goals though it is challenging	5	4	3	2	1
	I quickly try to figure out a solution at hard times	5	4	3	2	1
	When unexpected expenses occur, I usually have to use credit	5	4	3	2	1
	I have confidence in my ability to manage my finances	5	4	3	2	1
	I try to overcome if I am running out of money due to losses	5	4	3	2	1
Intention to Invest	Derivatives are definitely one of my choices	5	4	3	2	1
	I would refer derivatives stocks to others	5	4	3	2	1
	I would talk positively about derivatives to others	5	4	3	2	1
	I will invest in derivatives frequently	5	4	3	2	1
	I believe that derivative is an attractive investment channel	5	4	3	2	1
Trading Behaviour	I follow a planned trading strategy while trading in derivatives	5	4	3	2	1
	I evaluate the risk associated with each derivative contract before investing.	5	4	3	2	1
	My past experiences and feelings affect how I trade	5	4	3	2	1

18. Mention the level of opinion towards the following statements of behavioural biases

CA – Completely Agree; A- Agree; N-Neutral; DA-Disagree; CDA- Completely Disagree

Variables	Statements	CA	A	N	DA	CDA
Herding Behaviour	The size of my investment is influenced by the opinions of others, such as brokers or financial consultants.	5	4	3	2	1
	I trust the information provided by friends, relatives, and colleagues.	5	4	3	2	1
	I monitor market trends when making decisions to buy or sell stocks.	5	4	3	2	1
	Other's investor's recommendations of investment affect my purchase	5	4	3	2	1
	The size of my investment is influenced by the opinions of others, such as brokers or financial consultants.	5	4	3	2	1
Heuristics	I prefer investing in stocks I am familiar with.	5	4	3	2	1
	I am more influenced by past winners than by past losers when making investment decisions.	5	4	3	2	1
	I frequently overestimate the losses	5	4	3	2	1
	I stick on to the expert's estimation	5	4	3	2	1
	I adjust my portfolio based on expert advice.	5	4	3	2	1
	I tend to be slow in updating my beliefs in light of new information.	5	4	3	2	1
Overconfidence	I am confident in my ability to evaluate the securities in my investment portfolio.	5	4	3	2	1
	My past investment decisions were primarily based on specific investment skills	5	4	3	2	1
	I believe I have a better ability to predict future prices.	5	4	3	2	1
	I feel that my investment decisions often lead to higher-than-average returns in the market.	5	4	3	2	1
	I am confident that my skills and knowledge of the market enable me to outperform it.	5	4	3	2	1
	I always allocate my income into several accounts	5	4	3	2	1
	I always treat my monthly income and bonuses differently	5	4	3	2	1

Mental Accounting	I always calculate the costs associated with my monthly income.	5	4	3	2	1
	I don't always calculate the costs associated with my bonus income.	5	4	3	2	1
Loss Aversion	My past loss experiences significantly influence my risk-taking ability.	5	4	3	2	1
	I tend to avoid selling shares that have decreased in value.	5	4	3	2	1
	I typically sell shares that have increased in value.	5	4	3	2	1

19. Mention the problems faced while trading in Derivatives

Particulars	**SA**	**A**	**N**	**DA**	**SDA**
Maintaining margin money	5	4	3	2	1
The complexity of the instrument	5	4	3	2	1
High speculation	5	4	3	2	1
Available only in lots	5	4	3	2	1
Misleading information by brokers	5	4	3	2	1
Huge volatility	5	4	3	2	1
Lack of timely information	5	4	3	2	1
Familiarity of the market	5	4	3	2	1

Personal Information:

20. Gender: a) Male b) Female c) Transgender

21. Age: _____

22. Educational Qualification:

a) Up to School Level b) Diploma c) Graduate

d) Post Graduate e) Professional Degree

23. Marital Status:

a) Single b) Married c) Separated/Divorced

24. Annual Income:

a) Below ₹2,00,000 b) ₹ 2,00,000 – ₹ 4,00,000

c) ₹ 4,00,000 – ₹ 6,00,000 d) Above ₹ 6,00,000

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Table of Contents

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The Influence of Big Five Personality Traits on the Investment Behaviour of Gen Y

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Abstract

Retail investors' decisions can be influenced by a variety of factors; among all investors, millennials (Gen Y) are those who are deeply influenced, because this market-leading generation exhibits its talents and has a great deal of success and failures which influences the market. Although there have been several researches on the impact of personality characteristics on investment behaviour, there is no specific literature about Generation Y. Thus, the study's primary goal is to comprehend how investors' Big Five personality qualities affect their financial behaviour with special reference to Generation Y. The study also aims to understand the investor's profile, preferred investment avenues by the investors, satisfaction level of investors, the relationship between socio-economic characteristics and level of satisfaction, dimension of personality traits on investment behaviour, the influence of personality traits on the investment behaviour and challenges faced by the investors while investing in financial markets. Using the snowball sample technique, 160 investors from the Coimbatore city of Tamil Nadu were chosen for this study. A descriptive research design was used and the raw data was collected through a well-structured questionnaire. The collected data was analysed and interpreted with the help of appropriate tools and techniques. According to the study's findings, neuroticism and extraversion have no discernible impact on Gen Y investor's investment behaviour, whereas conscientiousness, openness, and agreeableness have a considerable impact.

Keywords: Big Five Personality traits, Generation Y, Investors, Investment Behaviour.

JEL Classification: G41, G40, G11

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Introduction

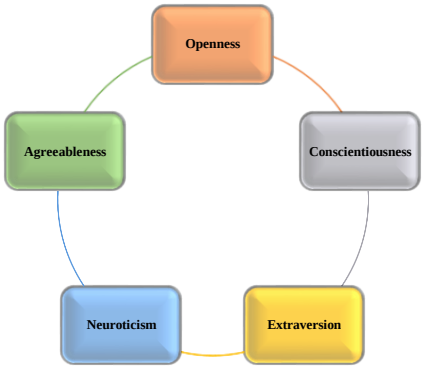
Developing countries like India often face substantial challenges in securing adequate capital for their development efforts. Capital is a critical factor for India's economic development across various sectors. A country's capital needs are fulfilled through a combination of domestic and external sources. The capital needs of a country can be satisfied through the investment of investors. Investors, both domestic and international, play a crucial role in providing the necessary funds. Investment has been emphasized since the very beginning because it is the primary factor in economic expansion and acquires in national wealth. Their capital injections contribute to overall economic growth. The relationship between investors and a country's capital needs is dynamic, reflecting the ongoing cycle of investment, returns, and reinvestment.

An investor's investment decision-making process is influenced by a variety of factors, including personal traits, psychographics, social, economic and demographics related to the financial market. Previous theories of investing claim that investors are rational individuals who make decisions primarily focused on maximising profits and minimising risks (Liu et al., 2016). Indeed, recent theories in behavioural economics and finance suggest that the human mind does not always think rationally, and financial markets do not always behave with perfect efficiency. These theories challenge traditional economic models that assume individuals are entirely rational and markets operate efficiently. Two prominent theories that address these deviations from rationality and market efficiency are behavioural economics and behavioural finance. Behavioral economics incorporates insights from psychology to understand how individuals deviate from classical economic assumptions but behavioral finance extends behavioral economics into the realm of financial markets. Behavioural finance suggests that human decision-making involves both cognitive and emotive aspects. It explores how psychological factors influence investment decisions and behaviour. Investors' perception of their capacity for making sound financial decisions is influenced by a variety of factors, including society, emotions, values, and personality types. Empirical studies have demonstrated that variables like personality traits, moral principles, emotions, and society matter more than fluctuations in stock prices and financial circumstances.

Individuals' psychographic conditions, which are based on a triangle framework mostly from psychology, sociology, and anthropology, affect their investment behaviour (Shiller, 2002). The most significant factor influencing an individual's comprehension is their personality. Personality is unique and enduring patterns of thoughts, feelings, and behaviours that characterize an individual. It is relatively stable over time but can also be influenced by experiences, environmental factors, and personal development (Lotfi et al., 2016). Each person's personality has an impact on how they view risk, among other things (Sarwar et al, 2020). Characteristics of a person can be ascertained using their personality traits. (Nauman, 2019).

The Big Five personality theory is the foundation for this study. It is an experimentally determined hierarchical model of personality qualities that are divided into five categories, or the "Big Five." Trait theorists have tried to identify and characterize many known traits. Four thousand personality qualities were proposed by Allport (1937), and sixteen were recorded by Cattell (1943). Traits include cognitive (brain-based cognitive functions that regulate and control our behaviour), motivational (It is believed that motivating traits influence behaviour through self-control and task-specific motivation), and emotional components (influence how a person generally experiences and expresses emotions in various situations) (Zuckerman et al., 1999 & Kumar et al., 2023). These theories were criticised, for being too complex; as a result, the five-factor theory was developed, which outlines fundamental characteristics and provides the theoretical foundation for personality traits (Soto, 2018). Although several studies have attempted to predict personality traits, the Big Five personality theory created by Allport and Odbert (1936) is the most constantly recognized. It is a widely established theory that lists five personality-related traits that set different people aside from one another. The five traits are agreeableness, extraversion, openness, conscientiousness, and neuroticism. Personality qualities have an impact on people's decision-making processes, especially financial decisions (Crysel et al., 2013).

Figure 1: Big – Five Personality Traits



Source: Ickes, W. (2009)

Openness to experience

People who are open to new experiences tend to be inventive, resourceful, and accepting. The risk-taking propensity of those with the attribute of openness to experience is higher than that of others. More open individuals are more likely to accept the unconventional guidelines recommended when making financial decisions (Sachdeva, M., & Lehal, R. 2023). Such individuals have positive associations with risk tolerance and stock investment willingness (Widagdo, B., & Roz, K. 2022).

H_{2a} – Openness highly influences investment behaviour

Conscientiousness

Conscientious people are dedicated, well-organized, dependable, persistent, and timely. They also take more risks and are less impulsive. Conscious people actively take part in decision-making. (Widagdo, B., & Roz, K. 2022). Conscientious individuals have a positive relationship with their investment behaviour and trade more to achieve their goals (Sadykov, O. 2022). Conscious investors make sound investing decisions without relying on illusions (Baker., et al. 2023). They become more selective in their investing choices as a result of this capacity. Therefore, the hypothesis is

H_{1a} – Conscientiousness highly influences investment behaviour

Extraversion

An extravert is "active, upbeat, thrill-seeking, and inclined to socialize in large crowds". Extraversion holds only positive information which influences financial decision-making. Brown, S., & Taylor, K. (2014) examined an association between financial decision-making and personality traits. This brings us to the conclusion that extroversion is highly related to financial assets. Extraverted people seem to take greater risks to maximize their gains/ returns (Durand, R. B., et al. 2008). Thus, the hypothesis has been framed.

H_{3a} – Extraversion highly influences investment behaviour

Agreeableness

The ability to get along with people is a quality that indicates collaboration, empathy, and generosity are the attributes of agreeableness. Agreeable people stay away from the other person's conflicts. Without giving it a critical review, they accept the information that others have offered (Sadykov, O. 2022). The investing patterns of cooperative investors also revealed that they participate in intensive stock trading and follow market herd behaviour. Acceptable individuals struggle to make their own financial decisions and rely on the knowledge of financial analysts (Hasib, A. 2020). Thus, the hypothesis has been framed.

H_{4a} – Agreeableness highly influences investment behaviour

Neuroticism

Neurotic people are more negative, unhappy, worried, and dread ambiguity and uncertainty. They prefer to avoid uncertainty and stay away from risky products (Niszczota, P. 2014). People with neuroses lack analytical skills, critical thinking abilities, cognitive abilities, and conceptual understanding. Due to these

weaknesses, neurotic people tend to fear failure and experience anxiety while making risky decisions (De Raad, B., & Mlacic, B. 2020). Thus, the hypothesis has been framed.

H_{5a} – Neuroticism highly influences investment behaviour

Wesner and Miller (2008) suggest that Generation Y is the first generation to have grown up entirely in the digital era, with a strong influence from information technology on both their personal and professional life. There isn't much consensus on the beginning and ending points for Generation Y (Brosdahl and Carpenter, 2011). The target group for this study is Generation Y due to its enormous population. At around $600 billion annually, Generation Y has enormous buying power and significantly affects their disbursement (Kennedy, 2001). Furthermore, this generation may have more money accessible for personal investments since they have more disposable income than any other group in history (Morton, 2002). In brief, understanding how Generation Y invests is critical for financial services modification, education initiative guidance, trust-building, economic impact prediction, enhanced advisory services, social responsibility, and wealth transfer planning. Policymakers, investment experts, financial institutions, and even members of Generation Y may all benefit from understanding this generation's investing approach. This generation, born approximately between the early 1980s and mid-1990s, represents a significant demographic group that is now entering the workforce and making financial decisions. Due to the unique experiences and traits that differentiate this generation from earlier ones, research on Generation Y, or Millennials, is being done. Generation Y is often highly educated, with a significant percentage having pursued higher education. It's critical to comprehend how an individual's educational history affects their approach to investing and financial planning, since it may have a significant impact on employment decisions, income levels, and financial goals (Karanam, 2019). Generation Y's attitudes about money were shaped due to difficult economic conditions when they entered the workforce, such as the 2008 financial crisis. Social responsibility, diversity, and inclusivity are often highly valued by Generation Y. Both the purchases they make and the investments they make increasingly show this. Possessing a strong spirit of enterprise. Many individuals within this generation are interested in starting their businesses or pursuing non-traditional career paths. Generation Y is expected to experience a significant wealth transfer from older generations. Thus, this study attempted to study the investment behaviour is Gen Y.

Review of Literature

Velmurugan et al., (2015) led an examination of investors' perceptions of various investment opportunities. The findings emphasized that the elderly and huge incomes prefer post office investment and bankdeposits for secured investment reasons. **Bhavik O. Swadia (2017)** identified that the objective for saving is the children's education, healthcare, retirement purposes and others. **Sashikala et al (2018)** identified the effect of behavioural factors on the investment intentions for both short- and long-term investments. The studyconcludes that behavioural factors impact the short-term as well as long-term investment intention of equity investors. Investors' perceptions of their capacity for sound financial decision-making are influenced by their personalities, values, emotions, and social environment. People's investing behaviour is significantly influenced by their psychographic circumstances, and their choices contain intertwined risks. **(Sarwar et al., 2020).** Emotions are pervasive and predictable drivers of decision-making. **(Priyadharshini, 2020)**. Excitation and other good state of mind encourage people to take chances and have faith in their ability to assess investment opportunities, but fear and other negative emotional states have the opposite impact **(Kuhnen & Knutson, 2011).** Emotional stability was a key quality that affected investments generally. It was discovered that returns and emotional stability had a stronger correlation with equity than other variables. **(Isidore & Christie, 2017).** When predicting a person's behavioural intention, personality factors or natural attributes of an individual may serve as the foundation for perceptual constructs. **(Lai, 2019). Danish Sarwar et al (2020)** revealed that extraversion, agreeableness, risk aversion, openness to new experiences, and consciousness all significantly positively correlate with an individual's intention to invest, but neuroticism negatively correlates with an investor's intention to invest. **Cheng-Po Lai (2019)** investigated the effects of the personality traits of individual investors on stock market investment. The results show that people with aggregable personalities invest their resources in preserving their connections with other people. Only medium risk is taken by high and

low self-monitors **(Varadharajan & Vikkraman, 2010)**. As per the empirical findings of this research, age significantly influences the association between extroversion and perceived behavioural control. People with a high degree of openness tend to be independent and make wise decisions in challenging circumstances. **(Awan & Sahar, 2021)**.

The dimensions of financial decision-making associated with risk aversion, cognitive biases, and socially responsible investing are significantly impacted by certain personality traits, specifically openness, agreeableness, and consciousness, respectively. The influence of personality traits is greater than that of demographic factors like gender **(Nga & Ken (2013).** The Generation Y generation is characterised by a higher average income, education and ethnic literacy (Rosdiana, 2020). They seek to stand out from the crowd, assess their achievement, and face intellectual challenges and the urge for accomplishment **(Bujang et al., 2015)**. When compared to baby boomers and Generation X, Generation Y makes a substantial GDP contribution and has strong purchasing power. Millennials may invest in a variety of financial instruments to produce some passive income to meet long-term financial goals, rather than setting money aside for a pension fund **(Rahman & Gan, 2020).**

Research Gap

Several research investigations have examined a connection between personality traits and investment behaviour, and the outcomes have been contradictory and inconsistent. Studies on this topic believe that personality traits are significant when choosing investments which is supported by both theories and utility. The "Big Five" personality qualities are generally accepted as an accurate predictor of a person's financial conduct. Younger investors are increasingly taking the lead in the market (Nandan & Saurabh, 2016). Many young people are triggered to invest in different investment avenues that attract them. The investment behaviour of young investors must be taken into consideration and researched. Different studies have been conducted relating personality traits and investment behaviour (Rahman & Gan, 2020 & Lai, 2019) but the focus on a particular generation's investment behaviour in line with personality traits is still untouched.

By addressing these nuanced aspects, researchers can contribute to a more comprehensive understanding of the relationship between personality traits and investment behaviour within Generation Y, filling existing research gaps and providing practical insights for financial professionals, educators, and policymakers.

Objectives and Research Questions

This study concentrates on the investment behaviour of Generation Y particularly (i.e., investors from the age of 25 years to 40 years). The influence of personality traits on Gen Y's investment behaviour has not yet been investigated. It raises several questions. What type of investments are Gen Y people most likely to choose? Do personality traits influence the investment behaviour of investors? With a focus on Generation Y, this study has made an effort to explore previously unexplored areas to gain insight into the most popular avenues for investment and the impact of personality factors on investors' investment behaviour. By comprehending personality traits, an investor can manage a profitable platform and have a stronger investment portfolio.

Methodology

Data Collection

The study describes the investment behaviour of Generation Y who are between the age group of 25 years to 40 years from Coimbatore city in Tamil Nadu, India. A well-structured questionnaire was constructed by including all the personality traits according to the Big Five Factor Model (Allport and Odbert, 1936). "If a large number of rating scales is used and if the scope of the scales is very broad, the domain of personality descriptors is almost completely accounted for by five robust factors" (Costa, Paul & McCrae, R.R., 1999). Snowball sampling is used to research people with specific traits who are difficult to identify. Thus, this technique was adopted to collect responses from the Gen Y investors. The questionnaire was circulated among 170 investors out of which 160 valid responses were identified.

Data Analysis

All statistical analysis was done using SPSS and Smart PLS software. The reliability test was carried out, to find whether the variables are reliable to carry out the study. Thus, the test was carried out for the traits and the values are shown in Table 1.

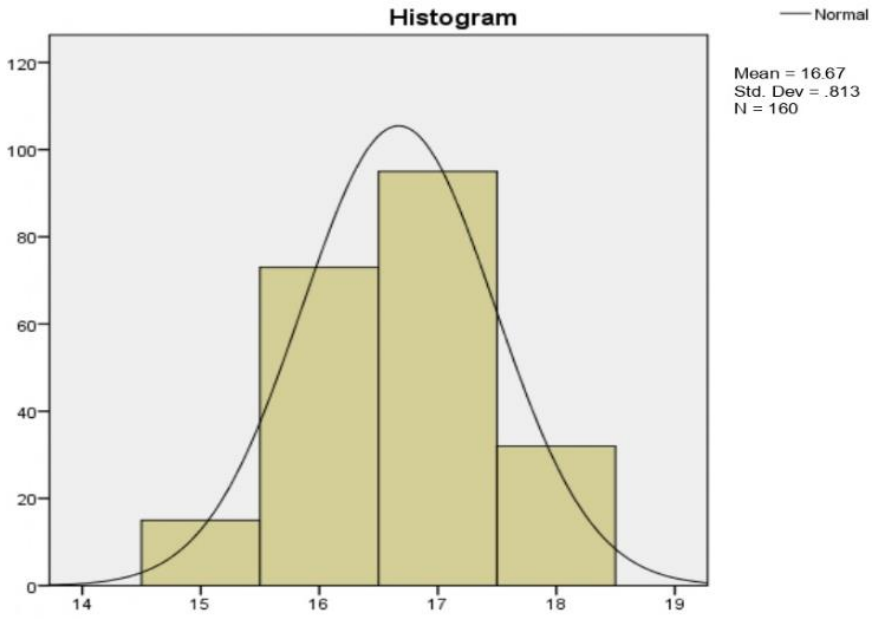
Table 1: Reliability Scale Statistics

S. No	Personality Traits	Item	Cronbach value
1.	Conscientiousness	5	0.782
2.	Openness	5	0.852
3.	Extraversion	5	0.995
4.	Agreeableness	5	0.751
5.	Neuroticism	4	0.732

Source: Computed data

The Cronbach's Alpha value of conscientiousness is 0.782 which is more than the suggested value 0.7 (Peterson, R. A., 1994). Openness Cronbach's Alpha value is 0.852 which is above 0.7. The value of extraversion is 0.995 which is reliable. The values for Agreeableness and Neuroticism are 0.751 and 0.732 which fall above the suggested value 0.7. Hence, the reliability of the question is proved (Peterson, R. A., 1994). The Kolmogorov-Smirnov test is used to determine if a collection of data originates from a normal distribution, which is the null hypothesis (Kolmogorov, A. N., 1983). The test statistics generated by the Kolmogorov-Smirnov test are used to check for normality. The KS test was done for 160 samples and it was found that the distribution was normal. Thus, the parametric test was used for analysing the data It is clear that the value of the Kolmogorov-Smirnov statistics p-value is more than 0.05 (at a 5% level of significance). Thus, it indicates that there is a normal distribution.

Figure 2: Normality Test



Source: Computed figure

The investment avenues that are preferred by the investors are calculated using the mean score ranking analysis. It is used to arrange or order the various avenues based on their mean scores. This is used to compare and rank different investment avenues according to the preferences of the investors.

The satisfaction level of investment is calculated by finding a mean and standard deviation value using a statistical function. The satisfaction level of investment is calculated to know the Gen Y satisfaction in investing in the financial market. ANOVA test was done to determine the association between the socio-economic factors and the level of satisfaction of investors in financial markets.

The personality traits of Gen Y were identified by using confirmatory factor analysis to reduce the multitude of variables to a lesser number of factors (Rummel, R. J., 1967). The formula for factor analysis is $X = \mu + L F + e$, where X is a vector of measurement; μ vector of means; LF is loading factors and e is residuals.

Multiple regression analysis was used to analyse the relationship between personality traits and the investment behaviour of the investors. According to Kang & Zhao (2020), multiple regression is calculated using the formula $\mathbf{Y = a + b_1 X_1 + b_2 X_2}$. Where Y is the dependent variable; a is constant; and X_1 and X_2 are the independent variables.

The link between personality traits and investment behaviour has been a subject of interest and has explored general associations between certain personality traits and specific investment behaviours. Path analysis statistical technique was used to explore and quantify the direct and indirect relationships between personality traits as an independent factor, financial literacy as a moderating variable and investment behaviour as the dependent variable.

Variables

Independent variable and Dependent variable

Based on the Big Five theory personality traits were taken as an independent variable to measure the investment behaviour of investors. Personality traits are considered the independent variable to measure investment behaviour, exploring how variations in personality traits influence or predict different aspects of investment behaviour. Personality characteristics can predict a wide range of human preferences and behaviours. Investor decisions on investment portfolios and outcomes were correlated with their personalities. The personality attributes of optimism, approachable, flexibility, high emotional intelligence, and confident people are exhibited by mutual fund investors.

The investment behaviour of the investors is taken as the dependent variable. Investor behaviour is the pursuit of goods, resources, concepts, experiences, and so on to satisfy their wants and desires (Saleem et al., 2021). Investor behaviour is significantly influenced by environmental, social and psychological factors (Pahlevi & Oktaviani, 2018). Even though environmental and social factors have little influence, psychological factors play a big role in determining how an investor behaves (Sarkar, 2017). Hence, investor behaviour suggests how investors behave by buying and selling shares or commodities under various circumstances (Elankumaran and Ananth, 2013).

Moderating Variable

The nature and intensity of the relationship between the dependent variable and its predictor variable can be altered by moderator variables. Moderation analysis helps to understand whether the strength or direction of the relationship between two variables (in this case, personality traits and investment behaviour) depends on the level of a third variable (financial literacy) (Martini et al., 2021). Researchers studying behavioural finance are becoming more interested in how financial literacy affects the investment decisions of individual investors (Adil et al., 2021). Studies have taken into consideration that financial literacy is related to decision-making and investment performance. Thus, this variable has been inspected as a moderator of the relationship between individual investors' behaviour and personality traits (Mutlu & Ozer, 2021).

Results and Discussions

The investment behaviour of Gen Y is being studied. The results are being discussed here.

Gender is an important variable in studying investment behaviour. In general, male investors are willing to make investment decisions according to their risk-taking ability, but females are looking for safe investments and the majority of the respondents are from the male category in the study area. Under this study, the age is confined to three heads based on the Generation Y category namely 25-30 years, 31-35 years and 36-40 years. In this category, most of the respondents belong to the 31-35 years of age group in Generation Y. The study focused on the investment behaviour of investors in various investment avenues. It requires a good knowledge and skill. Highly educated investors have more capacity to analyse the market

conditions and also make investment decisions properly. The majority of the respondents hold a postgraduate degree which indicates that they are educated and highlyinterested in investing future savings. The saving and investment behaviour of investors is very much influenced by their income. Income is the base for all investment activities. Investors are those who earn more income and are willing to take more risks and also invest more money. It reveals that middle-income respondents are interested in investing and they can take risks. The occupation builds the social network which influences the investors to adopt various types of investment patterns. Coimbatore is an industrial hub area, there are more opportunities to start a business. Hence most of the respondents in the study area are entrepreneurs.

Table 2: Socio-economic Profile of the Respondents

Variables		No. of. Respondents	Percentage
Gender	Male	93	58.1
	Female	67	41.9
Age (in years)	25-30	59	36.9
	31-35	63	39.4
	36-40	38	23.8
Educational Qualification	Up to School level	8	5.0
	Undergraduate	58	36.3
	Postgraduate	78	48.8
	Diploma	16	10.0
Monthly Income	Below Rs.25,000	36	22.5
	Rs.25,001- Rs.50,000	78	48.8
	Above Rs.50,000	46	28.7
Occupation	Financial Advisor	37	23.1
	Self-employed	56	25.0
	Employed	45	28.1
	Housewife	14	8.8
	Others	8	5.0

Source: Primary data

Preferred Investment Avenues

Investment is the process of investing in assets to accumulate wealth. No investing strategy can promise a high rate of return without taking any risks. Risk and reward are proportionate in the real world. There are several investment options accessible. Investing tools should be chosen by investors depending on their risk tolerance, financial objectives, and time horizon.

Table 3: Preferred Investment Avenues by the Respondents

Factors	Rank scale value	R 1	R 2	R 3	R 4	R 5	R 6	R 7	R 8	Total score	Garret Meanscore	Mean Rank
	Garrett value	80	69	60	53	47	40	32	20			
Bank Deposits	No. of. Respondents	112	48	0	0	0	0	0	0	160	76.7	I
	Total score value	8960	3312	0	0	0	0	0	0	12,272		
Mutualfunds	No. of. Respondents	16	16	0	48	32	0	0	48	160	46.2	IV
	Total score value	1280	1104	0	2544	1504	0	0	960	7,392		
National saving scheme	No. of. Respondents	0	0	0	0	0	0	64	96	160	24.8	VIII
	Total score value	0	0	0	0	0	0	2048	1920	3,968		
Investment in the financial market	No. of. Respondents	0	0	32	16	64	32	0	16	160	46	V
	Total score value	0	0	1980	848	3008	1280	0	320	7,376		
Post office deposit	No. of. Respondents	0	0	16	16	0	64	64	0	160	40	VII
	Total score value	0	0	960	848	0	2560	2048	0	6,416		
Investment in goldand silver	No. of. Respondents	16	80	64	0	0	0	0	0	160	66.5	II
	Total score value	1280	5520	3840	0	0	0	0	0	10,640		
Insurance policies	No. of. Respondents	0	0	16	32	32	48	32	0	160	44.4	VI
	Total score value	0	0	960	1696	1504	1920	1024	0	7,104		
Investment in Real estate	No. of. Respondents	16	16	48	48	32	0	0	0	160	58.2	III
	Total score value	1280	1104	2880	2544	1504	0	0	0	9,312		

Source: Computed data

There are various types of investment options available as a means to achieve the financial goals of the investors. From Table 3 it is understood that the majority of the investors prefer bank deposits (Rank I) since bank deposit ensures safety and provides liquidity. There are various types of bank deposits providing interest which attract a lot of Gen Y investors. Gen Y investors prefer investing money in gold and silver (Rank II) as it is a verysimple and profitable avenue. The value of gold and silver is considerably high and constitutes a greatinvestment. Real estate investment (Rank III) includes the acquisition, administration, and sale or leasing of properties for financial gain. Through this, it is concluded that majority of the Gen Y investors prefer safe and secured investment avenues. Investment in the financial market, mutual fund investment is not much preferred by investors because prices might fluctuate as a result of financial news and world events.

Level of Satisfaction with Investment in the Financial Market

The satisfaction level of investment is calculated by finding a mean and standard deviation value using a statistical function. The mean score value is 19.5625 and the standard deviation value is 2.72119. Therefore [Average + Standard Deviation] is used instead of [Average + 3 Standard Deviation] because using average plus one standard deviation provides a wider and more inclusive range, which is useful for capturing the majority of the data points. Since the distribution is normal and the sample size is small it is found appropriate to use Average + Standard Deviation (Barde & Barde, 2012). Average + Standard Deviation = 22.28369 followed by Average - Standard deviation = 16.84131. Values less than 16 are coded as 1 i.e., low level of satisfaction followed by values between 16 and 22 coded as 2 i.e., medium level of satisfaction and values more than 22 are codedas 3 i.e., high level of satisfaction.

Table 4: Level of Satisfaction on Investment in the Financial Market

Satisfaction level	No. of Respondents	Percentage
High	36	22.5
Medium	96	60
Low	28	17.5
Total	**160**	**100**

Source: Computed data

From the above table 4 it is clear that the majority 60 per cent of the respondents have a mediumlevel of satisfaction with investment in the financial market followed by 22.5 per cent of respondents have a highlevel of satisfaction and 17.5 percentage respondents a low level of satisfaction in investing in the financial market. It is concluded that the majority of Gen Y have a medium level of satisfaction in investing in the financial market.

Relationship between Socioeconomic Factors and Level of Satisfaction in the Financial Market

Satisfaction can be assessed by expressing satisfaction or dissatisfaction based on their perceptions, preferences, and experiences. The level of satisfaction refers to an investor's fulfilment in investing in the financial market. It is a subjective measure that reflects the degree to which expectations or desires have been met. The relationship between socioeconomic factors and the level of satisfaction in the financial market is crucial because it provides insights into investors' behaviour, market segmentation, product development, risk management, and the overall dynamics of the financial industry (Najib & Osman, 2011). Comparatively not many Gen Y investors prefer investing in financial markets because they are not ready to take risks and it is proved that there is only a medium level of satisfaction for the investors in the financial market (Table 4). So, the level of satisfaction and socioeconomic factors are taken into consideration to know the impact of other factors that influence the satisfaction of the investors.

To examine the relationship between socio-economic characteristics and degree of satisfaction ANOVA test was applied and the following hypothesis was framed.

H_0: Socio-economic factors do not influence the level of satisfaction of the investors.

H_a: Socio-economic factors influence the level of satisfaction of the investors.

Table 5: Association between Socioeconomic Factors and Level of Satisfaction

Factors	F-Value	P- Value	Significance
Gender	0.807	0.448	Not Significant
Age	0.879	0.002	Significant
Educational Qualification	1.939	0.147	Not Significant
Occupation	0.339	0.095	Not Significant
Monthly Income	0.536	0.026	Significant

Source: Computed Data

Table 5 shows the result of the relationship between socioeconomic variables and investment happiness in the financial market. It is clear that the factors of age and monthly income significantly influence the investor's level of satisfaction with financial market investment by supporting the result of Shaik, M. B. et al., 2022. Other factors such as gender, educational qualification and occupation were not influencing the investor's satisfaction. Hence an alternate hypothesis was approved for age and monthly income indicating that it significantly affects the level of satisfaction on investment in the financial market.

Personality traits impact on Investment Behaviour

The Big Five Personality Model examined how emotional stability, extraversion, risk, return, agreeableness, conscientiousness, and reasoning affected investing decisions. Personality traits have an impact on investment decision-making and influence the choice of investment method (Khan, S. N. 2016).

Measurement of Sample Adequacy for the Variables of Personality Traits

Table 6 Measurement of Sample Adequacy for the Variables of Personality Traits

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.918
Bartlett's Test of Sphericity	Approx. Chi-Square	2.481
	df	435
	Sig.	.000

Source: Computed data

Factor analysis was utilized to identify the underlying variables that have the greatest impact on investment decisions. The sample size affects whether factor analysis is acceptable. In this regard, Kaiser-Maier-Olkin (KMO) sample adequacy measurement is yet another helpful technique to demonstrate the suitability of data for factor analysis. (Shrestha, N. 2021).The range of the KMO statistics is 0 to 1. Values greater than 0.5 are suggested to be acceptable by Kaiser (1974). According to Field (2000), scores between 0.5 and 0.7 are average, 0.7 and 0.8 are acceptable, and 0.8 and 0.9 are exceptional. The sample used to conduct the factor analysis is statistically significant in this study since the value KMO for the overall matrix is 0.918.

Dimension of Personality Traits on Investment Decisions

Table 7: Dimension of Personality Traits on Investment Decisions

Items	Component				
	1	2	3	4	5
Fixing the Target price of financials before trading	.693	.181	.276	.089	.051
Loss occurs due to unpredictable factors	.686	.197	.186	.210	.055
Interested in investing in the company when it announces good earnings recently	.683	.125	.098	.356	.128
Predict changes in financial prices by looking at recentfinancial prices	.666	.199	.300	.080	-.010
Avoiding companies with a history of poorearning	.665	.129	.094	.307	.160
Trusting my calculation and prediction aboutfinancials rather than experts' view	.587	.276	.040	-.052	.197
Consider past information as an indicator to buy or sell financials	.569	.381	.140	.084	.367
Having the ability to seek information in the market as they are readily available	.565	.217	.232	.237	.247
Trend analysis helps to analyse the performance ofthe company	.554	.243	.179	-.030	.239

Prefer to sell financials at recent 52-week low price	.526	.211	.409	.214	.227
Gathering more information before investing in financials	.209	.751	.216	.040	.155
Updating myself with new investment ideas	.268	.701	.171	.018	.000
Having independent ideas in choosing a variety offinancials	.316	.652	.223	.228	-.006
Choosing a safe investment and guaranteedreturn over high return	.042	.615	-.012	.255	.275
Finding more opportunities to get morereturns even when the market is weak	.357	.587	.176	.102	.090
Ups and downs in the market are generaland it is not a matter of worry	.137	.532	.299	.092	.040
I am always attentive and calculative inInvestment decision	.283	.360	.636	.123	.006
Ready to take more risk after earningprofit	.242	.192	.622	.365	.141
Avoiding risk after getting continuousloss	.294	.309	.584	-.013	.256
Buying financials at Rs.100 and after a few days such financials traded at Rs. 80. In this situation buying more financials to bring down your average.	.100	.079	.524	.323	.054
My attention to the stock market is drawnfrom my friends /relatives	.202	.133	.166	.712	.031
More confidence makes to perform well	.353	.285	.285	.632	-.054
Have invested in many investment alternatives like post office, gold and silver etc.	.261	.398	.141	.507	.314
Feeling down when the market is weakened	.201	.128	.098	.058	.744
Deciding to give up on the stock marketwhen a decision goes wrong	.117	-.041	.054	.602	.614
Not accepting that taking high risk is theway to improve return	.253	.179	.450	-.013	.518
Total	**12.022**	**1.729**	**1.380**	**1.212**	**1.174**
Percentage of variance	**40.072**	**5.762**	**4.601**	**4.040**	**3.915**
Cumulative percentage	**40.072**	**45.835**	**50.436**	**54.476**	**58.390**
Extracted Factors	**Conscientiousness**	**Openness**	**Extraversion**	**Agreeableness**	**Neuroticism**

Source: Computed Data

Table 7 shows that ten statements were grouped and contributed 40.072 per cent in total variance and named as 'Conscientiousness'. The second factor extracted contributes 45.835 per cent in total variance and is named 'Openness'. The third factor contributed 50.436 per cent of the total variance and is called 'Extraversion'. The fourth factor named 'Agreeableness' contributes 54.456 percent of the total variance. The final factor is named 'Neuroticism' and contributes 58.380 per cent of the total variance. From the factor analysis five factors namely Conscientiousness, Openness, Extraversion, Agreeableness and Neuroticism have been derived.

Personality Traits on Investment Behaviour

To investigate the impact of independent factors on dependent variables, regression analysis was used. People who are dynamic, compassionate, flexible, and efficient are more willing toward speculation (Harini, B., & Subramanian, S. 2023). The association of "Extraversion," "Agreeableness," "Openness to Experience," "Conscientiousness," and "Neuroticism" with investment behaviour, however, is partially overcome in the event of long-term risk behaviour. These personality traits are known to influence various aspects of decision-making, including financial choices. When considering long-term risk behaviour, several factors come into play that may partially overcome the associations with specific personality traits. Long-term risk behaviour can be influenced by a combination of personality traits, learning experiences, financial literacy, and evolving life goals.

Table 8: Relationship between Personality Traits and Investment Behaviour

Model	R	R Square	Adjusted R square	Std. error of the estimate	Durbin Watson
1	0.945	0.893	0.882	0.65836	2.117

Source: Computed data

The model reveals that the R (multiple correlation coefficient) value was 0.945. It measures the degree of relationship between the investment behaviour and the predicted value such as Conscientiousness, Openness, Openness, Neuroticism, and Extraversion are Personality traits, which explain 94.5 per cent of the relationship between the factors.

R Square (Coefficient of determination) value was 0.893. It shows that there is about 89 per cent of the variation in investment behaviour.

Adjusted R-squared value was 0.882. It changes the measurement given the quantity of autonomous factors in the model. That is the desired property of a goodness of fit statistic. Durbin - Watson (DW) statistics show 2.117 indicates no autocorrection.

Influence of Personality Traits on Investment Behaviour

The test values that influence of Personality dimension on Investment behaviour are shown below

Table 9: Influence of Personality Traits on Investment Behaviour

	Model	Standardized co-efficient	t value	p-value	Significance	Result
Y	Constant	2.339		.002	Significant	**F value = 8.694**
X_1	Conscientiousness	.241	.000	.003	Significant	
X_2	Openness	.286	3.010	.000	Significant	
X_3	Agreeableness	.269	4.020	.000	Significant	**P value = 0.000**
X_4	Neuroticism	-.133	3.787	.064	Not Significant	
X_5	Extraversion	-.046	-.651	.516	Not Significant	

Source: Computed data

It is clearly understood from Table 9 that the factors 'Conscientiousness' ($\mathbf{X_1}$)influences investment behaviour at 24 per cent if there is a change at one unit in the factor 'Openness', which cause 0.286 units ($\mathbf{X_2}$)in investment behaviour. Likewise, the factor ($\mathbf{X_3}$)'Agreeableness' influences investment behaviour at 27 per cent. The factors Neuroticism ($\mathbf{X_4}$)and Extraversion ($\mathbf{X_5}$)do not significantly influence the investment behaviour in the study area supported by (De Bortoli, D, 2019).

The derived equation from the analysis is as follows.

$$\textbf{Investment Behaviour (Y)} = 2.339 + 0.241(X_1) + 0.286(X_2) + 0.269(X_3) - .133\ (X_4) - .046(X_5)$$

Personality Traits and Investment Behaviour

Table 10 displays the results of the internal reliability (CR) assessment using Cronbach's Alpha and Composite Reliability. The CA and CR values are over 0.70, which indicates that the data is reliable (Hair et al., 2020). Convergent validity is confirmed by measuring all the crucial elements with "average variance extracted" (AVE) considerably greater than the 0.50 criterion, which indicates the signalling the further assessment of the study.

Table 10 Construct Reliability and Validity

	Cronbach's alpha	Composite reliability	Composite reliability	Average variance extracted
Agreeableness	0.786	0.701	0.826	0.713
Conscientiousness	0.738	0.735	0.785	0.563
Extraversion	0.859	0.878	0.913	0.779
Neuroticism	0.699	0.778	0.827	0.706
Openness	0.850	0.866	0.815	0.601
Financial Literacy	0.811	0.889	0.880	0.711
Investment Behaviour	0.729	0.730	0.845	0.645

Source: Computed data

The discriminant validity for Fornell-Larcker (1981) is displayed in Table 11, where the inter-item correlation of the constructs is less than the root of AVE of the constructs on the diagonal. Thus, each construct's uniqueness was proven.

Table 11: Discriminant Validity – Fornell Larcker criterion

	Agreeableness	Conscientiousness	Extraversion	Financial Literacy	Investment Behaviour	Neuroticism	Openness
Agreeableness	**0.783**						
Conscientiousness	0.458	**0.751**					
Extraversion	0.566	0.587	**0.883**				
Financial Literacy	0.439	0.439	0.628	**0.840**			
Investment Behaviour	0.504	0.291	0.519	0.605	**0.775**		
Neuroticism	0.480	0.636	0.671	0.704	0.579	**0.843**	
Openness	0.480	0.675	0.512	0.456	0.412	0.647	**0.803**

Source: Computed data

The study discovered that computed values significantly decreased below the threshold, at less than 4.77. The "Variance Inflation Factor," or VIF, is determined in the structural inner model by measuring the variables independently. (Diamantopoulos et al., 2008).

Table 12: Collinearity Statistics VIF

Statements	VIF
A1: My attention to the stock market is drawnfrom my friends /relatives	1.552
A2: More confidence makes to perform well	1.293
A3: Have invested in many investment alternatives like post office, gold silver etc.	1.332
C1: Trusting my calculation and prediction aboutfinancials rather than experts' view	1.347
C2: Consider past information as an indicator to buy or sell financials	1.151
C3: Having the ability to seek information in the market as they are readily available	1.398
E1: I am always attentive and calculative inInvestment decision	1.834
E2: Ready to take more risk after earningprofit	4.319
E3: Avoiding risk after getting continuousloss	4.775
F1: I can predict the gains that will increase the value of my investment.	1.224
F2: I understand what the returns on my investment are.	1.224
N1: Feeling down when the market is weakened	2.092
N2: Deciding to give up on the stock market when a decision goes wrong	2.542
N3: Not accepting that taking high risk is theway to improve return	1.535
O1: Updating myself with new investment ideas	2.321
O2: Having independent ideas in choosing a variety offinancials	2.149
O3: Gathering more information before investing in financials	1.183
I1: I make consistent contributions to my savings account.	1.084
I2: I carefully keep track of my financial records.	2.190
I3: I create a budget for the money I have.	2.078

Source: Computed data

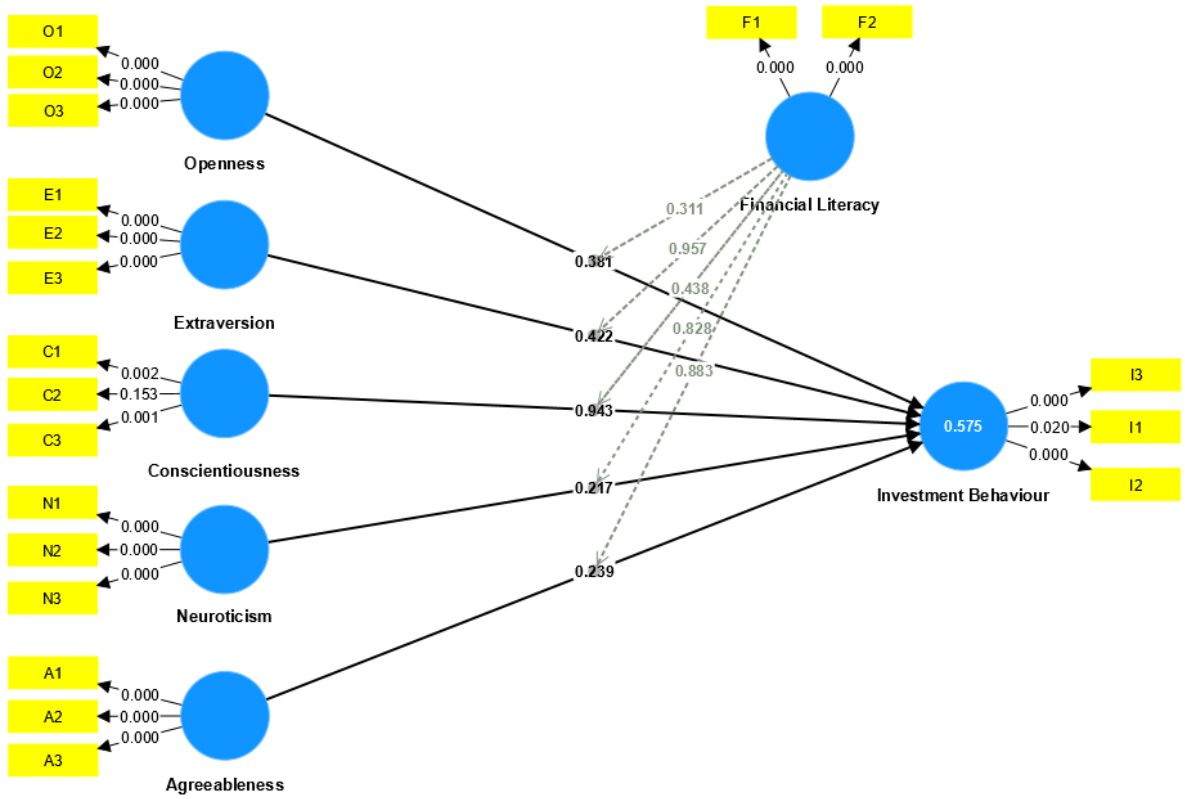
Inner model testing or structural modelling is performed to determine the link between the research model's constructs, significant values, and R-square. The significance of the structural path parameter coefficient and the R-square for the dependent construct were used to assess the structural model. Table 13 indicates that the personality traits of the investor can influence their investment behaviour by up to 47%.

Table 13: R – Square - Overview

	R – square	R – Square Adjusted
Investment Behaviour	0.575	0.478

Source: Computed data

Figure 3: Structural Path Model



The purpose of this test was to examine the connections between the constructions. Before executing an internal assessment of the t-statistics test model, the Smart PLS software was bootstrapped with 170 samples. Figure 2 displays the boot-strapping model's outcomes. In addition, the original sample value may be used to evaluate the nature of the association. If a positive number is indicated by the initial sample value, then the relationship is positive. If a negative number appears in the initial sample value, the relationship is negative. Table 14 presents the path analysis findings. All were statistically significant according to Table 14's findings of the internal model tests.

Table 14: Structural Model Assessment

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
Agreeableness → Investment Behaviour	0.272	0.239	0.231	1.177	0.023
Conscientiousness → Investment Behaviour	0.325	0.151	0.344	2.172	0.043
Extraversion → Investment Behaviour	0.223	0.217	0.278	0.804	0.002
Neuroticism → Investment Behaviour	0.167	0.143	0.263	0.637	0.052
Openness → Investment Behaviour	0.359	0.287	0.291	1.234	0.021
Financial Literacy → Investment Behaviour	0.244	0.205	0.279	0.876	0.038
Financial Literacy x Openness → Investment Behaviour	0.435	0.242	0.429	1.013	0.031
Financial Literacy x Extraversion → Investment Behaviour	0.113	0.135	0.246	0.554	0.012
Financial Literacy x Conscientiousness → Investment Behaviour	0.341	0.112	0.440	1.776	0.029
Financial Literacy x Neuroticism → Investment Behaviour	0.065	0.229	0.301	0.217	0.049
Financial Literacy x Agreeableness → Investment Behaviour	0.043	0.350	0.289	2.147	0.022

Source: Computed data

Challenges Faced Towards Investment in the Financial Market

Managing money itself is a big challenge. Confirmation bias, social conformity, loss aversion, and other psychological biases are all continually working against the individual investor. There are several challenges which make investment difficult and theyshould overcome such risks.

Table 15: Challenges involved while investing in financial markets

Problems		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total Score	Mean Score	Rank
Sudden changes in market price	No. of respondents	49	54	33	16	8	600	3.75	III
	Score	245	216	99	32	8			
Behavioural biases like fear & greed affect investmentdecisions	No. of respondents	60	69	24	4	3	659	4.12	II
	Score	300	276	72	8	3			
Unexpected loss is one of the major risks in the Share market	No. of respondents	62	70	28	0	0	674	4.21	I
	Score	310	280	84	0	0			
Selection of profit-makingcompanies	No. of respondents	12	30	73	74	11	478	2.99	IV
	Score	60	120	219	68	11			
Finding the correct time to market the financial markets	No. of respondents	5	6	52	69	28	371	2.32	V
	Score	25	24	156	138	28			

Source: Computed data

The challenges faced by the respondents have been collected by using Likert scaling techniques. Table 15 reveals the challenges faced by the respondents regarding different terms of Investment in the financial market. 'Unexpected loss is one of the major risks in the financial market'has been ranked first with a mean score of 4.21. The second ranked has been given to 'behavioural biases' like fear and greed affect investment decisions' with a mean score of 4.12. 'Sudden changes in market price' has been ranked third with a mean score of 3.75. 'Selection of profit-making companies' and 'Finding correct time to market the financials' were considered to be the least problems for the investors. Unexpected sudden losses and behavioural biases affect investment decisions, which is a major problem in investments. Hence the Government should create awareness about market changes and risks associated with investment in the financial market. It will be helpful to overcome these problems and become a successful investor.

Suggestions

The study brings the way to understand the determinants influencing the investors to invest. The following suggestions were made based on the findings

- Individuals should understand both positive and negative impacts on personality traits. Self-awareness of one's personality traits can be a powerful tool in improving investment practices. Recognizing strengths and weaknesses allows individuals to tailor their investment strategies to align with their unique characteristics, fostering more informed and successful financial decision-making.
- Gen Y has only a medium level of satisfaction because neuroticism affects theinvestor's behaviour. Hence necessary steps should be taken to create awarenessabout the financial market investment.
- Investors must try to improve their knowledge towards the financial market to invest in financial markets too
- Various seminars relating to investment should be conducted to learn about the various investment options.
- Digital services in rural areas must be initiated to bring in more households to gain investment knowledge.

Limitations

There were just 160 investors taken for the study, a larger sample size would enable us to obtain results that are more broadly applicable. The study was conducted to analyse only the personality traits that influence

investment behaviour. The research was limited to surveying individual investors in a single area i.e., Coimbatore city. The proportion of females in this research sample is rather low. This study may not be typical of the general population because it used the snowball sampling approach.

Implications and Future Scope

This research will help investors to be conscious towards their decision-making. The study emphasizes the significance of personality factors on people's investment behaviour. It also adds a further acquaintance to the connection between personality traits and financial choices to the previous research (Nauman & Ased Azad Khan, 2019). The study has brought in the Big Five Factor model through which it explains in-depth the influence of the traits towards the investment behaviour of Generation Y. It spots out the importance of the five attributes of personality traits and also creates awareness among the investors about their behaviour. Individual investors might become aware of their traits and attempt to improve them to increase their future returns. They should assess their investing performance in the past to evaluate if behavioural variables influenced their rational decision, which resulted in a lower-than-expected return on investment. The study has implications for regulatory agencies. The study found that Gen Y investors' poor performance in the stock market is due to a lack of knowledge about it. Consequently, authorities must focus their efforts on broadening their understanding of financial markets among Gen Y especially. Therefore, it helps the policymakers as well to bring in market instruments according to the investor's preferences.

Further research can examine established evaluations of the influence of the Big Five Personalities and perception factors on additional financial decision-making techniques, such as ability heuristic, disposition effect, and herding. Furthermore, since the Big Five theory was the only framework used to analyse the relationship between personality trait dimensions and financial literacy, we suggest that future research expand on this work by incorporating additional individual factors from other existing theories, such as the social exchange theory, social capital theory, etc. Moderating elements like self-efficacy and trust might be included and studied. As stated, only Gen Y individuals in Coimbatore were included in this study. The ability to generalise the findings is restricted when research is done in a single field. As a result, to increase the generalizability of the results, future studies should broaden their scope to include several locations. Finally, it is also possible to assess the investment behaviour of retirees by expanding the current study with a varied sample frame.

Conclusion

Investing money is a vital aspect of generating more income. It is also a craving for money.In India, many people are not yet involved in the organized financial sector. People from lowerincomes are also ready to invest to earn profit. Most of the respondents prefer safe investment avenues like bank deposits, gold and silver etc. The study concludes that the social factors of age and monthly income significantly influence the investor's level of satisfaction with financial market investment. Other factors such as gender, educational qualification and occupation did not influence the level of satisfaction of investors. It is clear that in the study area, the factors Conscientiousness, Openness and Agreeableness are significantly influencing the investment behaviour of investors. The result of ANOVA also supports the alternative hypothesis that personality traits significantlyinfluence investment behaviour. It is concluded that the majority of Gen Y have only a medium level of satisfaction while investing in financial markets because they don't think about the negative impacts on personality traits. Therefore, Gen Y investors know various traits related to investing but are not aware that they are exhibiting these traits, which could indicate a potential gap between theoretical understanding and practical application. To bridge this gap, investors could benefit from ongoing self-assessment, feedback from financial advisors or mentors, and continuous learning through practical experiences in the market. Being aware of one's decision-making processes and reflecting on the outcomes can help investors align their theoretical knowledge with their actual behaviour Most investors are not ready to take risks because they lack sufficient knowledge regarding the financial markets. Hence the regulatory bodies should take the necessary steps to create knowledge about the investment regarding financial markets which helps the investors to lead their portfolio profitably.

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UNVEILING THE BEHAVIOURAL BIASES OF RETAIL INVESTORS IN DERIVATIVE MARKET

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Abstract. The derivative market is growing faster than capital markets in recent years. Investors' focus is moved towards the futures market rather than on the stock market. The involvement of individual investors has increased in the derivative market. In investing, biases lead investors to make irrational and emotional decisions. The study tracks how investors' behavioural biases influence their investment decisions and also analyses the moderating effect of "financial literacy" and "self-efficacy" in the derivatives market. The snowball sampling technique was used to collect the primary data from 125 investors from Coimbatore city. Factor Analysis, Multiple Regression, and Structural equation Model were used for analysis. The results revealed that Behavioural biases such as "Herding Behaviour", "Overconfidence" and "Mental Accounting" positively affect investing in the derivative market and the moderating variables "Financial Literacy", and "Self-Efficacy" directly influence the behaviour of the investors which in turn affects derivative trading.

1. Introduction

Derivative market is a new segment that offers a mix of portfolios for the wallets of retail investors (Upputuri et al 2020). Financial institutions, Non-Financial Institutions and retail investors play a vital role in the derivative market. Nearly more than sixty per cent of retail investors are in the equity derivative market as per the National Stock Exchange (NSE) (Sarathkumar and Dhandhayuthapani 2016). Technological advancement and the new economic policy of 1991 have amplified the growth of derivative market trading and changed the attitude of investors from savings to investment (Rishi 2015). A derivative instrument is a contract based on the value of an underlying asset and the contract is settled in cash at the time of delivery (Himanshu and Nilesh 2013). The increase in the value of derivatives is quicker than their underlying property and its miles are vital to the Indian Market (Shekhawat 2019). Derivative instruments give a chance to retail investors who are willing to take risks, those who are risk averse can transfer that risk to those investors who have a positive attitude towards taking the risk and making a yield from the trade in the derivative market (Sarathkumar and Dhandhayuthapani 2016). The derivative market has seen a rise in investing over the past few years which become an essential investment. More retail investors are entering the market despite institutional investors (Pallavi 2014).

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Behavioural factors influence retail investors to determine the proportion of investment while choosing the investment avenues. The "demand and supply" lead to price discovery; apart from the economic factor, the psychological factors have a positive and negative impact on their investment decisions. The various recent theories on behavioural finance suggest that numerous cognitive and psychological errors can also impact the investment decisions of retail investors (Bhopte 2018). Behavioural finance is based on the irrationality of the investors. The investors' emotions are measured under behavioural finance based on different approaches, underlying theories, behavioural factors and variables (Venkatapathy and Sultana 2016).

Financial literacy significantly affects investors' behaviour toward taking risks (Gerth et al 2021). Comprehensive financial education and clarity regarding the characteristics of the investment instruments are needed for the investors in the prompt selection of derivative instruments for trading (Rishi 2015, Pant and Srivastava 2021). Investors must have a habit of making decisions by self-estimating rather than considering the opinions of others (Gupta 2016, Ahmed et al 2022). In any market, the intention to invest is surrounded by various behavioural factors, financial literacy and psychological factors. Even though the investors are financially literate, the behavioural factor dominates the decision-making process.

1.1. **Behavioural Biases and Intention to Invest in Derivative Market.** "A bias is a tendency towards making judgmental errors" (Kumar et al 2021). Preconceived ideas or prejudices are behavioural biases. When it comes to investing, biases make investors make irrational and emotional decisions (Ricciardi and Baker 2017). It shows that the esters are influenced by emotions and biases (Shukla et al 2022). This resulted in errors that caused losses and the inability to make a profit, which can be avoided through careful investigation before investing (Verma et al 2016). Investors should be aware of a variety of behavioural biases to avoid falling victim to the emotional trap (Khan et al 2021). Rather than emotional biases, cognitive biases can be managed through investor education and increased financial literacy (Pompian 2021), but a common man is easily influenced by emotional biases. Generally, while trading the investor gets overestimation (overconfidence) in his abilities which will lead them to failure (Amir 2016). Financial markets frequently emphasize herding tendency to demonstrate how investors can stray from their goals due to the behaviour of others, because the stock market is regarded as a leading indicator of an economy, its stability is crucial. Herding bias arises when there is uncertainty and anxiety, or when the possibility of making one's, own judgement could result in significant losses. As a result, typical investors tend to follow others while making investment decisions to obtain more trustworthy market information. A key factor in influencing people's decisions to trade on the financial markets is mental accounting. Investors' decisions are influenced by psychological factors, and sometimes they separate their trades into separate mental accounts because they perceive them as isolated islands. This approach dictates one of the most common mistakes made in the financial market and has a negative impact on the effectiveness of asset allocation. The three biases are highly related towards the financial market and the majority of investors are extremely influenced by these three biases so the most influencing biases such as herding behaviour, overconfidence and mental accounting were identified as the most prominent by reviewing past literature. The study considered Mental accounting under cognitive bias and Herding Behaviour and Overconfidence under emotional biases.

1.1.1. *Herding Behaviour.* Investors often tend to follow other investors' decisions, irrespective of their risk-bearing ability. Gupta and Shrivastava 2022 state that investors tend to follow or join groups and blindly believe others' advice to stay safe. They generally follow the advice of others and believe in the advice of friends (Kumar et al 2021). Any solo investor in the market lacking the right direction can create the tendency to guard. This eventually affects the investment executive process. On the stock markets, it can be observed again and again that investors initiated to sell their shares out of uncertainty and fear of loss (Shukla 2020). They see that other investors have additional statistics and follow market participants as they sell

their shares. This is done out of fear of loss and greed. In herding, investors take the opinions of others to keep their reputation intact and fully follow equity analysts' suggestions. They follow the views of others while picking stocks (Ahmed et al 2022). Derivative investment also takes place on the bias of herd behaviour, because the shares and derivative products are operating together.

Ha1: Herding behaviour positively influences the intention to invest in Derivative Market

1.1.2. *Overconfidence.* The bias is characterized by an individual's tendency to overestimate or have overconfidence in their skills or judgement. This gives the impression that you are much more skilled than others while your abilities may be quite different (Kumar et al 2021). He now falls behind in conducting accurate fundamental and technical research on the stock. They could exude excessive confidence in their knowledge's accuracy and capacity to act on it (Madaan and Singh 2019, Yiwen 2022). Overconfident investors are more likely to create irregular returns by outperforming the market through the expectation of market fluctuation (Dass 2019). Overconfidence can effectively cause investors to believe uncritically that they understand the market and its variations (Kim et al 2007). It is a sort of self-deceit because overconfident individuals overestimate their intelligence and talents, undervalue risk, overstate their control over situations, and frequently show excessive confidence because they think they are better than the typical person. In behavioural finance, overconfidence is a psychological characteristic that significantly influences each investor's choice of investments (Shukla 2020). Overconfidence is a psychological bias that leads investors to overestimate the importance of a parameter and to believe that their judgments are flawed and unreliable (Adel and Mariem 2013, Amman 2016).

Ha2: Overconfidence positively influences the intention to invest in Derivative Market

1.1.3. *Mental Accounting.* Mental accounting is a bunch of cognitive cycles individuals and families utilise to sort out, assess, and track monetary activities (Dass 2019). When it comes to financial and investment decisions, most investors make errors because of this psychological phenomenon. Their response to unplanned losses and gains is similarly impacted by this phenomenon, and the source of money has an impact on how it is spent (Shukla 2020). In daily life, mental or psychological responsibility might have detrimental effects (Gill and Bajwa 2018). Investors may make unreasonable distinctions between returns from income and those from capital appreciation due to mental accounting bias (Santi et al 2019). Investors use a collection of cognitive processes to plan, assess, and monitor their investment activities.

Ha3: Mental accounting positively influences the intention to invest in Derivative Market

1.2. **Financial Literacy and Intention to Invest in Derivative Market.** Financial literacy is the ability to understand how money functions in a business or an individual's life (Gerth et al 2021). A person's awareness of numerous options, abilities, and investment decisions can be revealed by the level of financial literacy (Zhang et al 2021). The goal of financial literacy is to understand how money functions. It means that one should consider how they earn, spend, manage, and invest their money. Financial literacy is frequently crucial since wise financial decisions are essential to success (Yang et al 2021). Numerous activities are included in financial literacy programmes to improve investors' knowledge, self-assurance, and financial management skills. Financial Literacy provides answers provides questions such as how much to save or invest, where to invest, how long to invest for, how much will be returned, how to profit from tax planning, and how to prepare for retirement in the decision-making process (Bellofatto et al 2018). Financial planning is simply the collection of skills and knowledge that one has and uses to guide financial decisions (Gupta and Shrivastava 2022).

Ha4: Financial Literacy moderates the relationship between behavioural biases and Intention to invest in Derivative Market

1.3. **Self-efficacy and Intention to Invest in Derivative Market.** An important psychological construct known as self-efficacy (SE) is significantly associated with both personal financial behaviour and decision-making style, it varies from person to person. Individuals with extra protruding self-efficacy over definite behaviour will usually participate, design high aims, exhibit an effective assessment of the given task and have less pessimistic psychological effects (nervousness, stress, misery) related to adversity (Brooks and Williams 2021). When examining the relationship between personality qualities and investment intention, "financial self-efficacy has demonstrated both mediating and moderating roles". Investors with higher self-efficacy generally sense longer-term regulation on their financial situation than investors with lower self-efficacy, when the market is volatile. "Literature has shown that self-efficacy positively affects financial practices" (Nadeem et al 2020).

Ha5: Self-efficacy moderates the relationship between behavioural biases and Intention to invest in the Derivative Market.

2. Literature Review

In addition, a wide literature review has been carried out to find the research gap. Financial market anomalies lead to the rise of behavioural finance (Yiwen 2022). The decision-making process of investors comprises many psychological changes, which are reflected in behaviour (Venkatapathy and Sultana 2016). The investor's behaviour was elaborated by psychologists by stressing the characteristics which shape their investment decisions (Rahman et al 2015). Emotive and cognitive aspects may interfere with making illogical investment decisions (Osamor et al 2019). Feelings and emotions hold an important place in the investment decisions of equity investors. It is said that individuals do not perform logically every time and it is difficult to expect investors to enlarge their utility which is impossible in reality (Shukla et al 2022). Both young and experienced investors are also affected by biases (Venkatapathy and Sultana 2016). Experienced and seasoned investors have gained success by overcoming biases and also avoiding making the same mistakes (Ricciardi and Baker 2017). The demographic variable of education has a significant effect towards investors' decisions (Amman 2016). Younger, male, low-income, and low-literate investors show more overconfident behaviour. Investors are more overconfident in less developed countries than in more developed countries (Sujesh 2021). Overconfidence is dangerous to wealth which decreases the return with an increase in turnover (Tekçe and Yılmaz, 2019). There is a significant effect of loss aversion, overconfidence, and risk perception towards stock market investment decisions whereas herd has an insignificant effect. Overconfidence dominates the rationality of the investors and has a long-standing effect and also brings in the point that retail investors are extra overconfident than institutional investors (Yiwen 2022). Irrational decision-making affects the middle-class or low-income groups, so necessary care should be taken while deciding (Kumar et al 2021). Higher financial literacy was found in investors with higher education and who have richer investment decisions (Bellofatto et al 2018). Financial self-efficacy has a changeless annotative power for risk attitude (Chris 2021). Most investors prefer blue-chip stocks, which reduces the investor's perception towards the risk. It gives investors only some chance of loss since these stocks usually earn a profit so many investors go to invest in them (Ahmed et al 2022). After reviewing the literature, it was found that the combination of behavioural biases and the moderating effect of financial literacy and self-efficacy highly influences the intention to invest in a derivative market.

3. Reaserch Problem

Nowadays investors prefer to invest in the derivative market instead of investing in specific assets like shares, because of the increasing awareness about the market (Koesrindartoto et al 2020). Several factors have a significant impact on investors when they trade in the financial

market. Despite considering the company's fundamental analysis, the investors are still influenced by a few emotional factors, such as behavioural biases and how familiar they are with that stock. In addition, few investors are knowledgeable about how to manage their financial activities and investment decisions. Understanding the traits that influence investors to trade in the derivative market is important. Irrational thoughts or actions known as behavioural biases might unintentionally affect how they make decisions. An essential factor that influences the aim or incentive that the investor creates is behavioural bias. Even though behavioural bias is an important consideration when making an investment decision, investors can only succeed in their goal if they avoid it. The study attempts to answer questions like How investors' behavioural biases affect their investment decisions? and how financial literacy and self-efficacy affect trading in the derivatives market?

4. Objective of the study

- To identify the impact of behavioural biases on the intention to invest in the derivative market
- To know whether financial literacy and self-efficacy moderate behavioural biases and intention to invest in the derivative market

5. Theoretical Background and Conceptual Framework

A conceptual framework (Figure 1) was constructed and analysed; the variables were identified and based on the impact of the variable and the root cause; a conceptual framework was derived. The conceptual theory perceives the relationship between the variables that are taken for the study. The schematic representation (Figure 1) of the model explains the association between the variables through which the reader gets to know about the theory being explained (Dittrich et al 2005). Hayat and Anwar 2016 have proposed a model referring to financial literacy affecting the investment decisions of investors. High literates have financial knowledge whereas low-literate investors get the knowledge from their inner circle. This is the main cause for the arising of behavioural biases. The human mind is an unbelievable thing, yet it holds its restraints (Shukla et al 2022). Kumar et al 2021 commented that overconfident investor estimates their financial knowledge while underestimating the risk involved; they rank themselves greater than other investors (Dass 2019). Herding investors imitate the behaviour of other investors and the investors are not rational towards their investment decisions (Madaan and Singh 2019). The mental accounting bias leads the investor to act irrationally to change the way money is placed and also triggers them to utilize more money (Santi et al 2019). The study adopted the Prospect Theory which was developed by the psychologists Daniel Kahneman and Amos Tversky (Afriyanti 2009). The theory defines that the decision-making of investors relies upon certain biases when choosing among several options. A proposed model is framed by reviewing various kinds of literature, the study has taken herding behaviour, overconfidence, and mental accounting as controlling variables that directly influence the intention to trade in derivatives. Financial literacy and Self-efficacy are considered moderating variables which influence the attitude of investors while trading in derivatives. To identify and classify the statements into variables, factor analysis was applied using SPSS software. The influence of the independent factors (Herding Behaviour, Overconfidence, Mental Accounting,) and the effect of moderating variables (Financial Literacy, Self-Efficacy) on the dependent factors (Intention to Invest in the Derivative Market) were built by constructing a Structural Equational Model and tested with the help of the SPSS AMOS 20 application.

6. Data Description

Data collection is the systematic process of gathering and measuring information on variables of interest in a systematic, organised, and objective manner. It is a fundamental step in the research process and is crucial for obtaining empirical evidence to answer research questions,

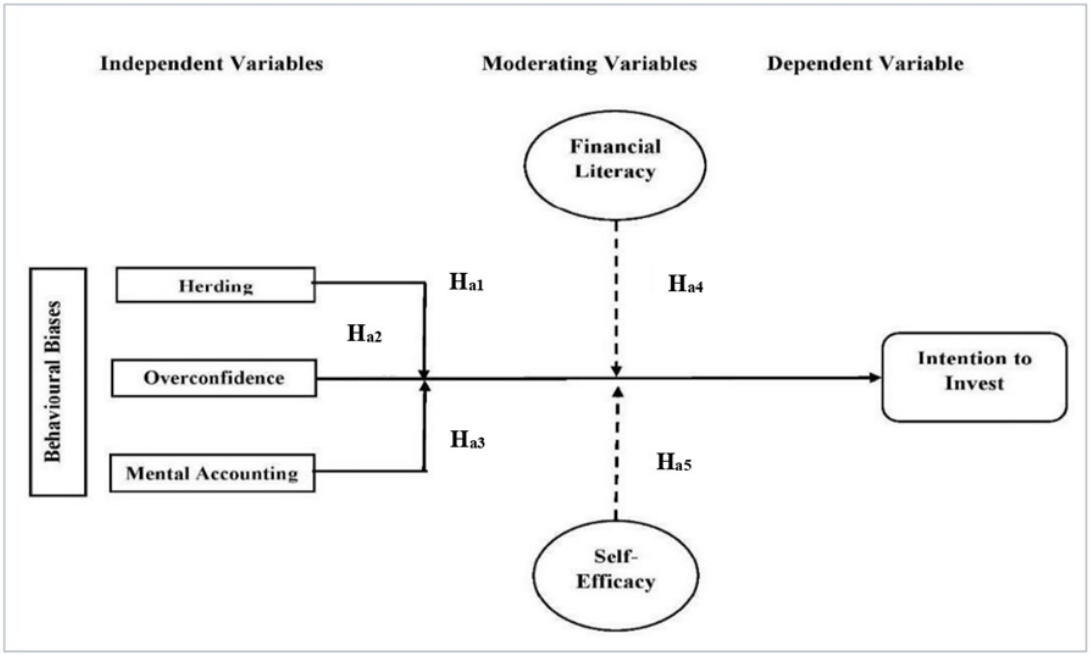

FIGURE 1. Determinants of Intention to Invest by Investors in Derivative Market – A Conceptual Model

test hypotheses, or achieve the objectives of a study. The accuracy and reliability of collected data significantly impact the validity of research findings. Primary data is gathered to address the research questions, test hypotheses, or fulfil the objectives of the study. The data can be collected through various methods, and the choice of method depends on the nature of the research and the information needed. A well–structured questionnaire was constructed to collect the data from the investors.

6.1. **Sampling unit.** A sample unit refers to the individuals that are included in the research. In this study, the retail investors in the Derivative Market are the sampling units. For the survey respondents must be the person who invests in the Derivative Market.

6.2. **Sampling Technique.** This study used the Snowball sampling technique. Snowball sampling is a non-probability sampling technique used in research to identify the participants through referrals from existing study subjects. This method is particularly useful in situations where the population of interest is difficult to locate or access directly. Snowball sampling is adopted for the study because the retail investors in Derivative Market are scattered and it is difficult to locate the investors from Coimbatore city. Since it is difficult to identify the retail investors of the Derivative Market, the researcher approached the investors through Stock Broking Companies. The Stock Broking Companies took the initiative to reach the investors and collected the necessary data from them. The questionnaires were filled out with the help of the broking houses in the respective city since personal meetings with the investors were not possible. Investors with accounts managed by stockbroking companies become a target population for the study. This collaborative approach can be beneficial as it allows the researcher to tap into the expertise and access of stockbroking companies, streamlining the data collection process.

6.3. **Sample size.** The sample size is the number of participants or observations included in the study. The choice of sample size depends on various factors, and it has implications for the study's reliability, validity, and generalizability. A total of 130 questionnaires were distributed

in Coimbatore city out of which 125 generated valid responses. The sample was drawn at per convenience of the brokering firms. The visitors and investors who approached the brokerage house were concentrated.

6.4. **Questionnaire design.** A questionnaire scale refers to the set of responses or options provided to participants in the study. The scale helps to measure and quantify participants' attitudes, opinions, behaviour, or characteristics. The questionnaire contained fifteen questions. The questionnaire was based on the five-point Likert scale. The questions were arranged in the following sequence to get a proper understanding of investors' behaviour and responses. The questions were related to variables such as financial literacy, attitude, personality traits, behavioural biases and self-efficacy through which their behaviour can be estimated. The questionnaire was framed in a manner that is clear, accurate and simple so that it was easily understood by the investors.

6.5. **Reliability Test.** All statistical analysis was done using SPSS and AMOS software. The reliability test was carried out, to find whether the variables are reliable to carry out the study. Thus, the test was carried out for the factors and the values are shown in Table 1.

Table 1. Reliability and Scale Statistics

S. No	Variable	Item	Cronbach Value
1.	Financial Literacy	5	0.709
2.	Self-Efficacy	5	0.821
3.	Herding Behaviour	5	0.847
4.	Overconfidence	5	0.893
5.	Mental Accounting	4	0.991

Cronbach's Alpha value of Financial Literacy is 0.709 which is more than the suggested value of 0.7 (Peterson 1994). Self-Efficacy Cronbach's Alpha value is 0.821 which is above 0.7. The value of herding behaviour is 0.847 which is reliable. The values for Overconfidence and Mental Accounting are 0.893 and 0.991 which fall above the suggested value 0.7. Hence, the reliability of the question is proved (Peterson 1994) (i.e.) the questionnaire is reliable for data collection.

6.6. **Normality Test.** The Kolmogorov-Smirnov test is used to determine if a collection of data originates from a normal distribution, which is the null hypothesis (Kolmogorov 1983). The test statistics generated by the Kolmogorov-Smirnov test are used to check for normality. The KS test was done for 125 samples and it was found that the distribution was normal. Thus, the parametric test was used for analysing the data It is clear that the value of the Kolmogorov-Smirnov statistics p-value is more than 0.05 (at a 5% level of significance). Thus, it indicates that there is a normal distribution.

The run test is done to determine whether random selection has been made in the process of sample selection from an ordered population. The value for the majority of the statements is greater than the significant value of 0.05. Thus, it indicates that the data is random.

6.7. **Tools and Techniques.** The behavioural biases of retail investors were identified by using confirmatory factor analysis to reduce the multitude of variables to a lesser number of factors (Rummel 1967). The formula for factor analysis is

$$X = \mu + LF + e$$

where X is a vector of measurement; μ vector of means; LF is loading factors and e is residuals.

Multiple regression analysis was used to analyse the relationship between behavioural biases and the behaviour of retail investors in the derivative market. According to Kang and Zhao

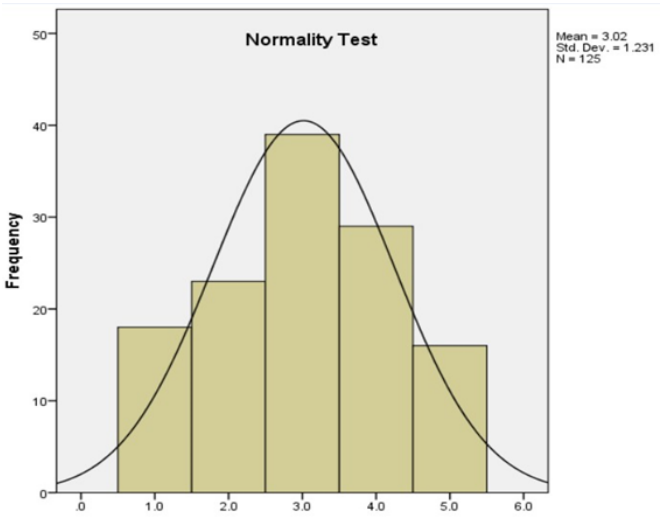

FIGURE 2. Normality Test

2020, multiple regression is calculated using the formula Y = a + b1 X1 + b2 X2. Where Y is the dependent variable; a is constant; and X1 and X2 are the independent variables.

The link between behavioural biases and the behaviour of retail investors in the derivative market has been a subject of interest and has explored general associations between certain biases and retail investors' behaviour. SPSS AMOS was used to analyze complex relationships among variables, test hypotheses, and assess the fit of their models to the observed data between behavioural biases as an independent factor, financial literacy and self-efficacy as a moderating variable and intention to invest as the dependent variable.

6.8. **Variables.**

6.8.1. *Independent variable and Dependent variable.* Based on the Prospect Theory, behavioural biases were taken as an independent variable to measure the behaviour of retail investors. Biases are considered the independent variable to measure investment behaviour, exploring how variations in biases influence or predict different aspects of the behaviour of retail investors (Rathore and Anshu 2023). The most prevalent biases were determined to be herding behaviour, overconfidence, and mental accounting. One cognitive bias (mental accounting) and two emotional biases (herding behaviour and overconfidence) are both present in the research. Although investor education and greater financial knowledge help mitigate cognitive biases rather than emotional ones (Pompian 2020), emotional biases still have a powerful effect on the average person.

The intention to invest is taken as the dependent variable. Intentions are "assumed to capture motivational factors that influence a behaviour" (Ajzen 1974). An investment intention is the decision to invest in any kind of asset, whether it be short- or long-term. Psychological elements are a major determinant of an investor's behaviour, even while environmental and social factors have little effect (Sarkar et al 2017). Investment intentions are influenced by behavioural characteristics, including mental accounting, overconfidence, and herd behaviour (Phung and Nguyen 2017). The manifestation of herd behaviour, overconfidence, and mental accounting effects varies among investors (Madaan 2016).

6.8.2. *Moderating Variable.* The nature and intensity of the relationship between the dependent variable and its predictor variable can be altered by moderator variables (Coleman 2016). Moderation analysis helps to understand whether the strength or direction of the relationship between two variables (in this case, behavioural biases and investment behaviour) depends on

the level of a third variable (financial literacy and self-efficacy). High levels of financial literacy may enhance individuals' understanding of investment products, risk, and return, making them more confident in their investment decisions. On the other hand, low financial literacy might lead to misunderstandings or misinterpretations of financial information, impacting the decision-making process (Sulistiawan 2019). Self-efficacy refers to an individual's belief in their ability to successfully perform investment-related tasks and make effective financial decisions (Gupta 2019). Financial literacy and self-efficacy may interact synergistically. A combination of high financial literacy and high self-efficacy could result in individuals who are well-informed, confident, and capable of making sound investment decisions. Conversely, low financial literacy and low self-efficacy might contribute to greater uncertainty and hesitation in financial decision-making (Zhu 2017).

7. Results and Discussion

The present section unveils the key findings of the study and engages in a comprehensive discussion to interpret, contextualize, and derive meaning from these results. Structured in a manner reflecting the research questions and objectives, this section delves into the statistical outcomes, drawing attention to patterns, relationships, and noteworthy observations. Descriptive statistics, as portrayed in Table 2 encapsulate the fundamental characteristics of the sample (Percentage analysis). The results of the study are analysed using appropriate tools and are discussed below:

Table 2. Socio-Economic Profile of the Investors

Particulars	**Category**	**Percentage**
Gender	Male	64
	Female	46
Age	Below 25 years	12.8
	25-30 years	16
	30-40 years	38.4
	40-50 years	23.2
	Above 50 years	8.8
Qualification	School level	7.2
	UG	32.8
	PG	36.8
	Professional	23.2
Annual Income	Below Rs. 2,00,000	17.6
	Rs. 2,00,000 – Rs. 5,00,000	41.6
	Above Rs. 6,00,000	40.8

In the study area, male investors are dominating the derivative market and GEN Y are the active participants in derivative trading. It is found that the majority have postgraduate qualifications with an annual income of above INR 2,00,00 and below INR 5,00,000.

Derivative market growth is faster in the Indian market. The retail investor count is increasing day by day (Li et al 2021). Since there are many retail investors involved, there are certain factors that influence them to invest in the derivative market. To extract the factors, confirmatory factor analysis has been carried out to bring in the form to construct a model. The KMO (Kaiser-Meyer-Olkin) tests the relevance of the factors (Kaiser 1974).

The appropriateness of the sample is 0.897 which fits in the KMO measure of the sample adequacy and Bartlett's Test of Sphericity is positive to a level of significance is < 0.001 conveying that there is a greater level of correlation between constructs, which makes it appropriate to use factors analysis (Shrestha 2021).

Table 3. Extracted Factors of Intention to Invest

Items	Component				
	1	2	3	4	5
I have full knowledge of the derivative Market	.683	.125	.098	.356	.128
I invest only after checking the company's financial statements for the past 5 years	.666	.199	.300	.080	-.010
Considering most familiar sectors while investing	.665	.129	.094	.307	.160
I know how to monitor the fluctuation in the market	.587	.276	.040	-.052	.197
I am aware of the prices of the stock in a day	.569	.381	.140	.084	.367
I continually stick with my spending plan while sudden prices arise	.209	.751	.216	.040	.155
I attempt to make development in the direction of my economic desires though it's far more challenging	.268	.701	.171	.018	.000
I quickly try to figure out a solution at hard times	.316	.652	.223	.228	-.006
I have faith in my capacity to manage my budget	.042	.615	-.012	.255	.275
I try to overcome if I am running out of money due to losses	.357	.587	.176	.102	.090
My extent of funding additionally relies upon the opinion of the other	.283	.360	.636	.123	.006
I trust that records from friends, relatives, and associates have excessive Reliability	.242	.192	.622	.365	.141
I comply with the marketplace moves at the same time as promoting stocks	.294	.309	.584	-.013	.256
Other's investor's recommendations of investment affect my purchase	.100	.079	.524	.323	.054
The rate of return of my neighbour's investment meets my expectation	.137	.299	.512	.092	.040
I feel assured to assess securities costs in my funding portfolio myself	.202	.133	.166	.712	.031
My previous portfolio investments had been especially because of precise funding skills	.353	.285	.285	.632	-.054
My capacity to expect future costs is better	.261	.398	.141	.607	.314
My funding choices can in general earn higher-than-common returns inside the market	.065	.017	.232	.537	.247
I accept as true that my abilities and information in the marketplace assist me to outperform the marketplace	.154	.243	.179	.530	.239
I always allocate my income to several accounts	.201	.128	.098	.058	.744
I continually deal with my monthly profits and bonuses differently	.117	-.041	.054	.002	.614
I usually calculate the price to be incurred from my monthly money	.253	.179	.450	-.013	.588
I do now no longer usually calculate the price to be incurred from my bonus money	.209	.151	.216	.040	.555

Continued on next page

Table 3 – continued from previous page

Items	Component				
	1	**2**	**3**	**4**	**5**
Total	12.022	1.729	1.380	1.212	1.174
Percentage of variance	40.072	5.762	4.601	4.040	3.915
Cumulative percentage	40.072	45.835	50.436	54.476	58.390
Extracted Factors	**Financial Literacy**	**Self-Efficacy**	**Herding Behaviour**	**Overconfidence**	**Mental Accounting**

The statements are grouped into five main components based on the Eigenvalue. Eigenvalues provide information about the amount of variance explained by each factor. Higher eigenvalues indicate more influential factors. Consider eigenvalues closer to 1 as a criterion for retaining factors. Analyzing the eigenvalues helps in determining the significance of each factor in explaining the observed variance (Harrington 2008). The extracted factors are named based on the similarity of statements that as "Financial Literacy", "Self-Efficacy', "Herding Behaviour", "Overconfidence" and "Mental Accounting". From the percentage, it is understood that all five factors together hold 58.390 per cent of the characteristics of the data and it is accepted (Porter 2012). The communalities value is also more than 0.5 for all the statements and was considered for future analysis.

7.1. **Determinants to Trade in Derivative Market.** As per the proposed model, the 'Intention to Invest' is taken as the output variable and the covariates are 'Herding Behaviour', 'Overconfidence', 'Mental Accounting' and the moderating variables are 'Financial Literacy' and 'Self-Efficacy'.

Table 4. Determinants of Intention to Invest in Derivative Market

R-Value: 4.911	F value: 72.458
R Square: 2.893	P Value: 0.000
Adjusted R Square: 1.852	

Coefficients							
Var Code	**Factors**	**Unstd Coeffs**		**Std Coeffs**	**t Value**	**P Value**	**Significance**
		B	Std. Error	Beta			
	Constant	6.420	0.068		4.442	.003	
X1	Herding Behaviour	0.520	0.048	0.061	0.892	.000	Significant
X2	Overconfidence	0.408	0.052	0.051	1.523	.012	Significant
X3	Mental Accounting	0.224	0.013	0.080	3.085	.020	Significant
X4	Financial Literacy	0.399	0.075	0.079	3.755	.010	Significant
X5	Self-Efficacy	0.291	0.060	0.097	1.350	.000	Significant

The coefficient of multiple determinations (R2) shows the number of variations explained by all these independent variables to the dependent variable (Keith 2019). The R-squared value of 2.893 indicates the proportion of variance in the dependent variable explained by the

independent variables. A higher R-squared suggests a better fit. In this study, the R-value was 4.911, which shows the highest correlation and the adjusted R-squared value of 1.852 accounts for the number of predictors and adjusts R-squared for model complexity. The F value is 72.458, which is the result of an F-test assessing the overall significance of the regression model. A high F value indicates that the model is statistically significant (Stolzenberg 2004). The P value associated with the F test is 0.000, suggesting that the overall model is statistically significant at conventional significance levels. All the independent variables (X1 to X5) are statistically significant, as indicated by their p-values being less than 0.05. The multiple regression equation for determinants influencing retail investors to trade in Derivative Market (Y1) is

Y1= 6.420E + 0.520x1 + 0.408x2 + 0.224x3 + 0.399x4 + 0.291x5

The extracted factors (Table 3) from the analysis are taken to construct the pathway to test the association with investment. The formulated hypotheses are

Ha1 → Herding Behaviour has a positive effect on the Intention to Invest in Derivatives

Ha2 → Overconfidence has a positive effect on the Intention to Invest in Derivatives

Ha3 → Mental Accounting has a positive effect on the Intention to Invest in Derivatives

Ha4 → Financial Literacy has a positive effect on Intention to Invest in Derivatives

Ha5 → Self - Efficacy has a positive effect on the Intention to Invest in Derivatives

Table 5 appears to present the results of a path analysis, specifically examining the relationships (path coefficients) between various independent variables (X1 to X5) and the dependent variable "Intention to Invest in Derivatives." The analysis includes the coefficients (B), standard errors (S.E.), critical ratios (C.R.), p-values (P), and results (Sig) for each path. Additionally, collinearity diagnostics such as tolerance and variance inflation factor (VIF) are provided.

Table 5. Path Analysis of the Factors

Relationship		**B**	**S.E.**	**C.R.**	**P**	**Result**	**Collinearity**	
							Tolerance	**VIF**
$H_{a1} \leftarrow X_1$	Herding Behaviour	0.463	0.070	0.506	0.000	Sig	0.521	1.258
$H_{a2} \leftarrow X_2$	Overconfidence	0.375	0.063	0.480	0.000	Sig	0.354	1.964
$H_{a3} \leftarrow X_3$	Mental Accounting	0.365	0.096	0.364	0.000	Sig	0.913	2.541
$H_{a4} \leftarrow X_4$	Financial Literacy	0.485	0.075	0.411	0.000	Sig	0.655	2.110
$H_{a5} \leftarrow X_5$	Self-Efficacy	0.335	0.111	0.398	0.000	Sig	0.761	1.899

Note: Intention to invest in Derivatives; S.E. = Standard Error; C.R. = Critical Ratio; β = Standardized Beta Coefficients; *p ¡ 0.05; Sig = Significant

Derivative market investment is highly influenced by the behaviour of retail investors. Some biases affect the behaviour of investors. Herding behaviour is highly influenced when compared to other behavioural biases (Table 5). Investors intend to replicate the behaviour of others who do the investment, they don't trust the assessment done by them (Linciano 2011). The herding behaviour (X1) reflects 0.463 units (Table 5) of change in intention to invest. 0.375 units of change will be reflected in the intention to invest when the overconfidence of the investors (X2) changes by one unit (Table 5). Overconfidence of investors leads to hasty decisions for investing in derivatives it can pave the way for earning profit or it can be a wrong decision that results in a loss (Kumar and Nisha 2015). One unit of change in mental accounting reflects 0.365 units (Table 5) of change in intention to invest. Mental accounting can influence investors to make irrational investment decisions. 0.485 units and 0.335 units of changes in financial literacy and self-efficacy reflected in the intention to invest when these factors change by one unit. Investors who can overcome behavioural bias are put into the profit zone (Rathore and Anshu 2023).

The standard errors provide a measure of the precision of the estimated coefficients. Critical ratios (C.R.) are calculated by dividing the path coefficient by its standard error. The p-values indicate the statistical significance of each path coefficient. All paths (Ha1 to Ha5) have p-values of 0.000, indicating that the path coefficients are statistically significant at conventional significance levels (e.g., 0.05). The critical ratios are all greater than 1.96 (assuming a two-tailed

test), further supporting the significance of the relationships. All relationships are labelled as "Sig," indicating statistical significance.

Tolerance measures the proportion of variance in an independent variable that is not explained by other independent variables. A low tolerance suggests potential collinearity. VIF (variance inflation factor) measures the degree to which the variance of an estimated regression coefficient increases if the predictors are correlated. Tolerance values range from 0.354 to 0.913, and VIF values range from 1.258 to 2.541. Generally, tolerance values below 0.1 or VIF values above 10 might indicate potential collinearity issues (Hair et al 2019). In this case, the values appear to be within an acceptable range, suggesting it is also free of the collinearity issue.

The path analysis results indicate statistically significant positive relationships between the specified factors (Herding Behavior, Overconfidence, Mental Accounting, Financial Literacy, and Self-Efficacy) and the intention to invest in Derivatives.

Table 6. Model Fit Indices

Fit Indices	**Standard**	**Result**	**Model Fit**
Absolute Fit Measures			
Chi-square			
χ^2		113.30	
Degree of freedom		46	
P value		0.369	
Root Mean Square Error of Approximation (RMSEA)	≤ 0.08	0.072	Good Fit
Goodness of Fit Index (GFI)	≥ 0.9	0.961	Good Fit
Adjusted Goodness of Fit Index (AGFI)	≥ 0.9	0.911	Good Fit
Incremental Fit Measures			
Normal Fit Index (NFI)	≥ 0.9	0.952	Good Fit
Comparative Fit Index (CFI)	≥ 0.9	1.089	Good Fit
Relative Fit Index (RFI)	≥ 0.9	1.029	Good Fit
Incremental Fit Index (IFI)	≥ 0.9	1.041	Good Fit
Root Mean Square Residual (RMR)	≤ 0.8	0.07	Good Fit
Parsimony Fit Measures			
Parsimony Comparative Fit Index (PCFI)	≥ 0.5	1.121	Good Fit
Parsimony Normed Fit Index (PNFI)	≥ 0.5	1.321	Good Fit

The chi-square test assesses the difference between the observed and expected covariance matrices. A higher p-value (0.369) suggests that the model fits the data well. However, chi-square is sensitive to sample size, and a non-significant result may not always indicate a good fit. RMSEA evaluates the discrepancy between the observed data and the model, considering model complexity. An RMSEA below 0.08 is generally considered indicative of a good fit (Hair et al 2012). In this case, the RMSEA is 0.072, suggesting a good fit. GFI assesses how well the model's predicted covariance matrix matches the actual data covariance matrix. A GFI above 0.9 is indicative of a good fit. Here, the GFI is 0.961, suggesting a good fit. AGFI adjusts the GFI for model complexity. An AGFI above 0.9 is generally considered a good fit. Here, the AGFI is 0.911, indicating a good fit. Incremental Fit Measures: Normal Fit Index (NFI), Comparative Fit Index (CFI) Relative Fit Index (RFI), and Incremental Fit Index (IFI) these indices compare the fit of the proposed model to a null model (independence model). Values above 0.9 for NFI, CFI, RFI, and IFI are considered indicative of a good fit. Here, all these indices exceed 0.9, with CFI slightly above 1 (1.089). RMR assesses the difference between the

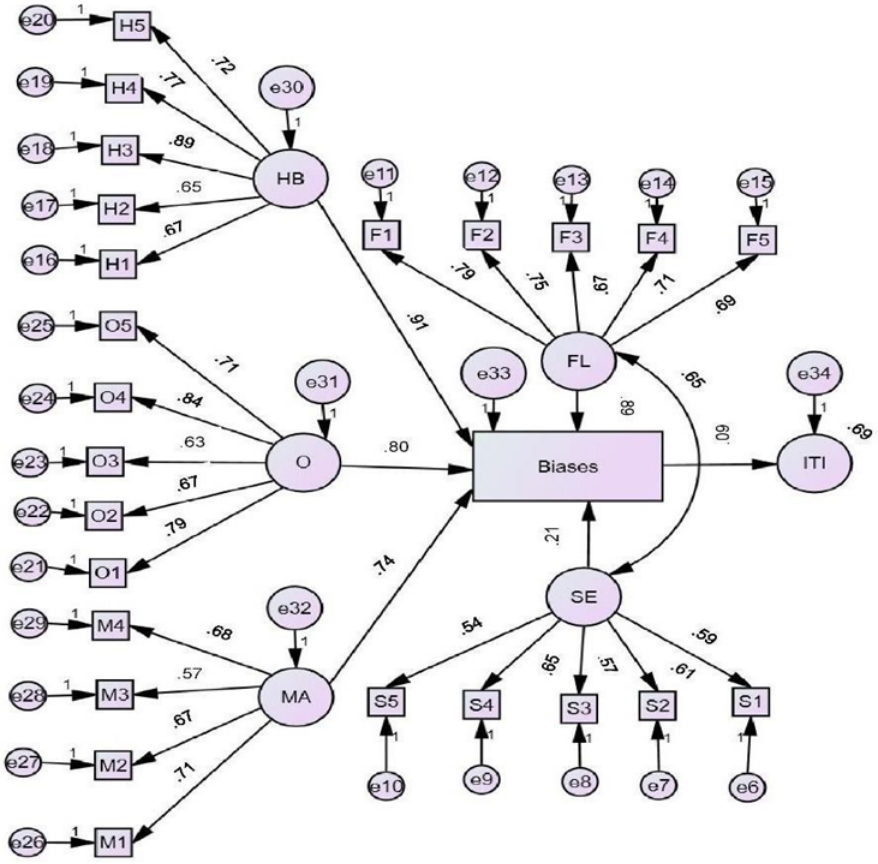

FIGURE 3. Determinants of Intention to Invest by Investors in Derivative Market

Source: Computed Data (AMOS)

observed and predicted covariance matrices. An RMR below 0.8 is often considered indicative of a good fit. Here, the RMR is 0.07, suggesting a good fit. Parsimony Comparative Fit Index (PCFI) and Parsimony Normed Fit Index (PNFI) these indices consider model parsimony by penalizing for additional parameters. Values above 0.5 are typically considered indicative of a good fit. Here, both PCFI and PNFI exceed 0.5.

The overall interpretation suggests that the structural equation model demonstrates a good fit to the data across a variety of fit indices. The p-value for the chi-square test is significant, and all other fit indices meet or exceed commonly accepted thresholds for indicating a good fit. The model appears to capture the underlying relationships among the observed variables well, and the goodness-of-fit measures suggest that the model is an appropriate representation of the data.

The study measures how the investor's behavioural biases "Herding Behaviour"," Overconfidence" and "Mental Accounting" affect the intention to invest in the derivative market and the moderating effect of "Financial Literacy" and "Self-Efficacy". The impact was positive and significant by supporting the model fit indices and hypotheses (Aftab 2020).

Figure 3 brings out the impact of the behavioural biases – Herding behaviour (HB), Overconfidence (O) and Mental accounting (MA) of the retail investors and the "moderating effect of Financial Literacy" (FL) and "Self-efficacy" (SE) on the intention to invest in the derivative market. "Financial Literacy (Ha4) has a high moderating effect on" investors' intention to invest in derivative markets (Kanojia and Malhotra 2023) (ITI) with a value of 0.89 per cent (Figure 3). The operations and performance of the derivative market differ entirely. The price is

based on the underlying stock rather than its direct price of the stock. Hence financial literacy shapes retail investors more, to engage in derivative market trading (Aryal 2021). Investors willing to invest in the derivative market need to be careful (Jetti et al 2021). There are certain biases that an investor must overcome. Herding behaviour (Ha1) has a high impact with a value of 0.91 per cent (Figure 3) towards the intention to invest in the derivative market, as many retail investors are highly influenced by their friends, families, etc. (Fatima and Jitendra 2021). The majority of the investors lack in their unique way and instead tend to follow others (Saleem et al 2023). This ultimately affects the investment decisions of retail investors. With 0.80 per cent (Figure 3), Overconfidence (Ha2) influences investors to overestimate (Sapkota 2023) and believe in their own decisions while investing in the derivative market. Mental accounting (Ha3) (0.74 per cent) impacts less towards investment in derivatives when compared to overconfidence and herding (Sharma et al 2021). Self–efficacy (Ha5) plays an important role in determining the investment of retail investors but has a less moderating effect of 0.21 per cent (Figure 3) when compared to financial literacy (Kumar and Nisha 2016).

8. IMPLICATIONS

This research will help retail investors conscious towards their decision-making in the derivative market. The study has applied the concepts of Prospect Theory (Afriyanti 2009), though it explains in-depth the behavioural biases towards investment decisions. Two main factors such as financial literacy and self-efficacy have been included in this model as moderating factors which influence investment decisions. The study brings out the importance of the three main biases Herding behaviour, Overconfidence and Mental Accounting and also creates awareness among the investors about their behaviour. By providing proper guidance and increasing financial knowledge among investors, the study suggests that herding behaviour can be mitigated. This emphasizes the role of education and information dissemination in reducing irrational investment choices. The research acts as an "eye-opener" for investors by highlighting the bias of overconfidence. Investors can use this knowledge to avoid overestimating their abilities, leading to more informed and rational decision-making. The study suggests that treating money as fungible can help investors avoid mental accounting biases. Encouraging rational decision-making and a holistic view of financial resources can contribute to more effective investment strategies. This study adds a further acquaintance to the connection between behavioural biases and financial choices to the previous research (Gerth et al 2021, Anbukarasi and Devaki 2020). The study serves as a guide for investors on how to avoid common biases like herding behaviour and overconfidence. By providing proper guidance and increasing knowledge, investors can make decisions based on sound principles rather than following the crowd blindly or overestimating their capabilities.

Recognizing the prominence of behavioural biases, financial institutions can implement risk management strategies that account for the potential impact of investor behaviour on market dynamics. This includes designing risk communication strategies that resonate with the psychological aspects of decision-making. NSE and BSE are enhancing their outreach efforts by conducting joint awareness programs for investors through common forums. However, there is a need to strengthen their communication channels to ensure a broader dissemination of information. Regulatory bodies can use the research to inform the development of policies aimed at protecting retail investors. Insights into the behavioural biases affecting decision-making can guide the implementation of regulations that promote transparency, fairness, and investor protection in the derivative market. The study highlights the importance of financial literacy and self-efficacy in moderating behavioural biases. Regulatory bodies can collaborate with educational institutions and financial organizations to promote initiatives that enhance investor knowledge and confidence. By understanding the implications of herding behaviour, overconfidence, and mental accounting, regulatory bodies can work towards maintaining market integrity. This involves monitoring and addressing practices that may lead to irrational decision-making or systemic risks.

9. Conclusion

Investment in the financial market has transformed from static finance to behavioural finance (Shukla et al 2022). In the contemporary financial landscape, modern finance is progressively supplanting traditional finance due to its increased recognition of psychological influences on investor behaviour (Madaan and Singh 2019). The heightened participation of investors in the derivative market has led to various changes, including the emergence of market anomalies. Enhanced knowledge of behavioural finance empowers investors to be proactive and cautious, enabling more successful investment decisions (Shukla et al 2022).

The study focuses on three prominent behavioural biases—herding behaviour, overconfidence, and mental accounting—assessing the level of their effects on investment decision-making. It delves into the specific effects of each bias on investment decision-making, asserting their substantial influence on investor behaviour. The moderating roles of financial literacy and self-efficacy are highlighted, suggesting that these factors directly impact behavioural biases. Financial literacy is portrayed as a driving force motivating ordinary investors to participate in the market, while self-efficacy is positioned as a crucial factor gauging an investor's positive sustainability, particularly after incurring losses. The study identifies herding behaviour (represented as X1) and financial literacy (represented as X4) as exerting a particularly potent effect on the intention to invest in the derivatives market when compared to other factors extracted (as detailed in Table 5 and Figure 3) (Rasool and Safi 2020). This insight underscores the specific significance of these factors in shaping investor decisions within the derivative market context.

As a result, the study aims to benefit investors in knowing the general mistakes made by them while making investment decisions. Finally, it may be stated that numerous research has been done on cognitive biases and how they affect investment choices are the need of the moment and it would be respected if the researcher's purpose in engaging future studies on this challenge with different behavioural biases with large samples and in different places to assist the investors in comprehending the typical errors they make while trading in derivative market.

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