

**A STUDY OF BEHAVIOURAL FINANCE DETERMINING FACTORS AND THE  
MODERATING EFFECT OF LOCUS OF CONTROL ON INDIVIDUAL INVESTORS  
INVESTMENT DECISIONS**

**R.Kiruthika**

Research Scholar,PG and Research Department of Commerce, Srimad Andavan Arts and Science College(Autonomous), (Affiliated to Bharathidasan University), Tiruchirappalli, Tamilnadu, India.

**Dr.S.Ramya**

Research Advisor, PG and Research Department of Commerce, SrimadAndavan Arts and Science College(Autonomous), (Affiliated to Bharathidasan University), Tiruchirappalli, Tamilnadu, India, Con.Email:sramya.commerce@gmail.com, ORCID ID:0000-0002-5058-4230

**Abstract**

**Purpose** - The locus of control moderate's the overconfidence bias and availability bias in investment decisions, which have positively impacted individual investors' decisions. The paper intends to study the behavioural determinants of overconfidence and availability biases in individual investors' investment decisions.

**Design/Methodology/Approach** - The relationship was assessed by distributing a questionnaire and collecting empirical data from investors about their perceptions of these biases via self-administered questionnaires from Stoke Exchange and other brokerage firms. The data was collected for a total of 146 individual investor respondents in this survey. This article used Regression analysis, chi-square, and descriptive techniques to examine the data.

**Findings** - The objectives of this article were to determine whether investors' investment decisions are impacted by overconfidence bias and availability bias, as well as the moderating impact of locus of control in influencing individual investors' investment decisions. This study explores the causal effects of economic behaviour on their own investment decisions of investors.

**Research implications** -The study, the LOC suggestively changes the association between Overconfidence bias and availability bias of investment decisions. Overconfidence bias is the most common judgment bias, while Availability bias is the availability of information that significantly impacts investment decision-making. Optimized decisions are intended to be made by prudent and knowledgeable investors. The positive and strong parameter of the model is significant.

**Originality/value** - The most important idea is that individual investors consider behavioural aspects (overconfidence and availability bias) when making investment decisions, and this paper concludes these factors play a vital part in their decisions.

**Keywords:** Behavioural finance, Overconfidence Bias, Availability Bias, Investment Decision, Locus of Control (LOC).

## INTRODUCTION

In recent times, Behavioural Finance is evolving into an important discipline in financial decision-making and individual investors' investment behaviour. [Sewell, \(2012a\)](#) says that Behavioural Finance studies psychology's influence on financial practitioners' behaviour and the effect on financial markets. Behavioural finance starts to consider psychological aspects, and the efficiency of strategies for investing may be enhanced. [Singh, \(2009\)](#). Traditional finance assumes that the investors are rational. In an efficient market, rational investors maximise their expected utility theory and assume the arbitrage. Behavioural Finance starts with two major building blocks: cognitive psychology and limits to arbitrage. The first block refers to how people's minds think, and behave. The cognitive has many patterns regarding people's thinking like mental compartment, prospect theory, anchoring, overconfidence, availability heuristic, and representativeness heuristic, etc., The second block of Limits to arbitrage specifies when the market is efficient and when it is not inefficient.

It is usually known as "behavioural finance," but we refer to it as "behavioural economics." Behavioural economics combines economics and psychology for you to provide an explanation for why and the way human beings make irrational decisions when they spend, save, make investments, and borrow money ([Belsky and Gilovich,2010](#)).

Psychology investigates human judgement, rational thinking, behaviour, and well-being, providing important insights into how individuals differ from standard economic assumptions. The Behavioural Finance and Behavioural Economics fields are closely correlated to employing scientific research, cognitive processes, and emotional biases to better understand the economy, financial decisions, and their effects on pricing, returns, and resource allocation ([Gopinath et al.,2019](#))

[Kahneman and Tversky \(1972\)](#) studied cognitive illusions and prospect theory. The phrase "cognitive bias" refers to people's systematic yet allegedly incorrect patterns of interaction with judgement and decision difficulties. The idea focuses on how people determine their decisions when faced with risk, particularly financial risk. Behavioural Finance is the examination of the psychological impacts of investment decision-making and the fiscal market ([Shefrin, 2001](#)).

One of the most widespread phenomena is investment in financial markets. Financial markets are vitally important for the economy. They also provide a mechanism for all executives or individuals to make their decisions on the investor's investment market. Finance has a very long history, but behavioural finance, which takes into account how people behave in the financial world, is a relatively recent discipline ([Selvam et al., 2019](#)). In this day and age behavioural finance arises as a cohesive part of the decision-making process because it is opposite to modern finance effects and speaks to market anomalies that can be perceived by discernment of investor psychology influencing the process way of decision-making. The interdisciplinary convergence of financial economics and cognitive psychology is a mainstream of behavioural finance. It is one of the main subfields of finance and this proposed to explain the psychological-based theories of investors' decisions ([Ceren, 2013](#)). Behavioural finance helps to explain the investor's irrationality in investment decisions using the human behavioural approach and economic theories ([Gill, 2018](#)).

Behavioural finance is focused on analyzing how psychological and sociological problems influence investors' investment decision-making. The behavioural finance major aspects are overconfidence, availability, locus of control, and cognitive, and emotional bias also impact the investment approaches and individuals' and institutions' investment decision-making processes ([Sattar, 2020](#)). A cognitive bias is a flaw in imagining, evaluating, remembering, or other cognitive processes that commonly result from stubbornly holding to one's preferences and perceptions in the midst of contradictory evidence. Cognitive biases in thinking, remembering, and decision-making are studied by psychologists. The field of finance known as "behavioural finance" has just begun to take off (Pavithran et al., 2018). It describes market outcomes and the impact of various psychological biases on how people and company managers approach investment decisions. According to making investment decisions behavioural finance has focused on people's interpret to act on making effective decisions on investments. It also investigates the behaviour of human psychology and its influence on investment decisions in financial markets.

## LITERATURE REVIEW

*The behavioral finance determining factors and the effect of locus of control on individual investors' investment decisions study reviewed are in this area:*

There have been many changes and advances have occurred in the theory of behavioural finance. To begin, consider the term "behaviourism" Since the concept's inception in the 1980s, behavioural finance has evolved. This phrase was coined in the twentieth century by John Watson in 1913. He introduced the theory of psychological behaviourism, also known as philosophical behaviourism. Psychological (philosophical) behaviourism is concerned with psychology (mindset, thinking, emotions) and the study of the behaviour of individuals. At that time, psychology was considered behaviourism ([Watson, 1913](#)). [Simon \(1955\)](#) stated that decision-making persons are rational, adaptive and results-oriented but they occasionally fail to make important decisions because of humans' cognitive and emotional architecture. Leon Festinger, a U.S. psychologist, completely presented an innovative theory concept in social psychology in 1956: the theory of cognitive dissonance. The durability of conventional financial models was called into question in the 1980s. [Shiller \(2003\)](#) said that an individual is influenced by a set of prejudices and behaviours. He first discussed the feedback model, which assumes that individual trading activities depend on other investors rather than on new market information.

Daniel Kahneman and Amos Tversky developed prospect theory in 1974. This is also original research. Other researchers said: [Richard Thaler and De Bondt \(1985\)](#) violate Bayes' rule by developing an overreaction hypothesis. These researchers are the progenitors of behavioural finance. Gustave Le Bon wrote *The Crowd: A Study of the Popular Mind* (1896). This book is still one of his most important and influential books in social psychology.

According to [Sent \(2004\)](#), research in behavioural finance took formal shape in the mid-1980s with the support of research funders, the Russell Sage Foundation. At the end of the 1990s, the Behavioural Economics Roundtable conference was launched, giving new impetus to contributions in this area. Behavioural Asset Pricing Theory (BAPT) and Behavioural Portfolio Theory (BPT) were proposed by [Statman \(2008\)](#) as advances in the field of behavioural finance.

This assumes that a stock's expected return is a function of market factors, book value factors, market capitalization factors, momentum, influence factors, social responsibility aspects, status factors, etc. BPT encourages investors to allocate their funds across multiple mental account levels of the portfolio pyramid according to their goals (education, savings, travel, adventure, getting rich, etc.). These goals vary from person to person and can be influenced by investment goals and time horizons. See [Barberis and Thaler \(2003\)](#) for an overview of behavioural finance. Recent advances in decision-making under risk, such as the shared attention model of Birnbaum (2008), have improved cumulative prospect theory. [Harrison and Rutstrom \(2009\)](#) have presented a mixer model to reconcile expected utility theory with prospect theory. Jason Zweig is a writer in 2007, a book titled "Your Money and Your Brain" was published. Richard H. Thaler, an American economist at the University of Chicago, received the Nobel Prize in Economics in 2017 for his contributions to behavioural economics.

[Shefrin \(2000\)](#) defines "Behavioural finance as a fast-emerging field that investigates the effects of psychological behaviour on investor investment". [Ritter \(2003\)](#) in particular, there are two representative topics in behavioural finance: -cognitive psychology and the limits of arbitrage. [Barber and Odean \(2000\)](#) have studied the effect of thinking on individual investors' investment patterns, identifying distinctive financial specialist classifications based on their features and attitude toward optional investment in the market. The ET was one of the organizations surveyed through a retail equity survey. According to [Alsabban \(2020\)](#), this study explores investor irrationality in the Saudi Tadawul stock market by studying the long-term relationship between market returns and market volumes using a vector autoregressive (VAR) model. It is intended to study behaviour. This result suggests that while investors are overconfident, professional traders have higher levels of overconfidence. study aims to investigate the influence of various important behavioural financial variables on stock investment decisions in Amman Stock Exchange. (ASE). The findings revealed that overconfidence had the greatest relative relevance, recommending that investors trading at ASE use a scientific basis when making stock investment selections. More research is required to investigate behavioural finance's impact on various risks and profits at ASE. According to [Rekik et al. \(2013\)](#), Tunisian investors often act impulsively when making investment decisions, and behavioural factors such as loss aversion, anchoring, representation, herd mentality, and mental accounting can influence how they perceive a situation. However, there is no tendency to overconfidence in the Tunisian stock market. Investor behaviour is also influenced by demographic factors such as gender, age, socio-professional category, and experience. Older investors are more prone to behavioural biases because they have lower salaries and less experience. Decision-making is influenced by behavioural aspects such as mental accounting, husbandry, and anchorage, and demographics such as age.

#### **OBJECTIVES OF THE STUDY**

- Analysis of behavioural biases and their impact on investment decisions in the stock market.
- Determining the effect of locus of control on the decision-making behaviour of individual investors.

## RESEARCH QUESTIONS

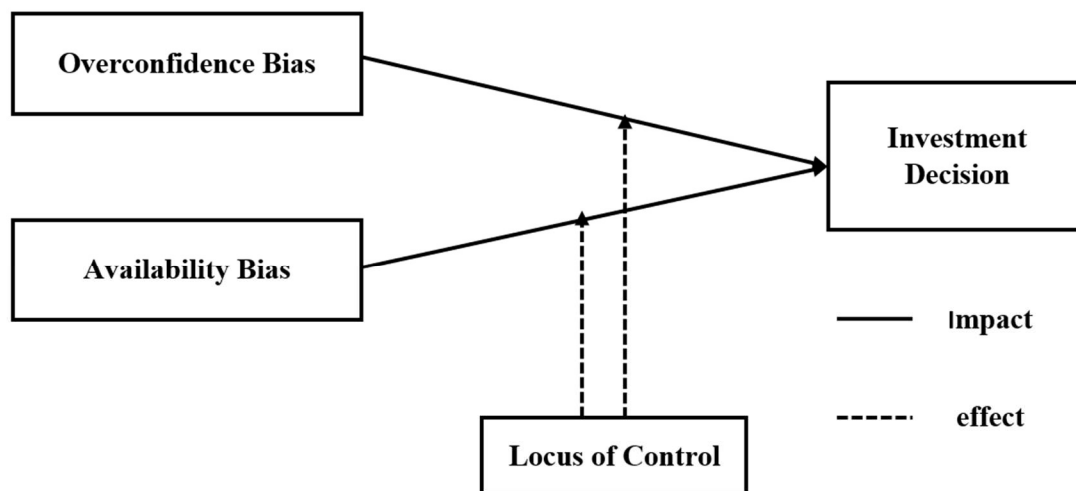
This research study will provide answers to the following questions.

1. Is there an effect between investors' behaviour and investment decisions on the stock market?
2. Has the locus of control moderating effect on individual investor decision-making behaviour?
3. Do demographic and behavioural characteristics (experience, age, qualifications, overconfidence, and availability bias) impact the investors' investment decisions?

## THEORETICAL FRAMEWORK

Individuals' investment decisions depend on numerous factors. The behavioural determinants selected for this study are overconfidence bias and Availability heuristic bias, which can impact the investor's investment decisions and have a moderated effect on the locus of control point in decision-making.

The schematic representation of the framework is given below:



*Figure.1 The behavioural determining factors in impact on individual investors' investment decisions and the moderating effect of locus of control*

### Overconfidence Bias

[De Bondt and Thaler \(1995\)](#) stated that “perhaps the most robust finding in the psychology of judgment is that people are over confident”. The most prevalent judgment bias is overconfidence and it is one of the most significant types of cognitive bias in behavioural finance, as referring to many studies regarding investors, managers, and politicians overconfidence can lead to suboptimal decisions ([Glaser, 2010](#)). Over confidence recommends – “investors misjudge the ability to anticipate future market actions because the overconfidence they frequently grab risks without receiving the commensurate benefit for them” ([Nevins, 2004](#)). This bias is extremely prevalent in the investment world.

[Daniel \(1998\)](#) assumes that overconfidence implies negative long-term auto correlations and excessive volatility, and if management actions are correlated with stock mispricing, then the predictability of public event-based returns. Several factors contribute to overconfidence, including illusions of knowledge, illusions of control, illusions of understanding, illusions of value, and illusions of talent. According to psychologists, overconfidence causes people to misjudge their skills, underestimate risks, and overestimate their ability to get things done. According to the theory, investors underestimate their forecast error variance because they overestimate their own talents and perceived favourability. It's consistent by research showing people overvalue their skills and also have a positive self-perception. Studies have shown that while making predictions, individuals underestimate the error variance.

### **Availability bias**

Availability is also known as the availability heuristic in cognitive bias; it is dependent on the individual's ability to recollect their experiences. According to [Tversky and Kahneman \(1974\)](#), when assessing the likely outcome of an event, people rely on the convenience with which past experience or knowledge can be recalled. Investors invest in family businesses in a less diversified manner as they make investment decisions about the likelihood of events based on the available information ([Keswani, 2019](#)). The tendency of investors to extend their individual trends and misconstrue them with market realities is referred to the availability bias. Heuristics (rules of thumb) drive availability bias is described as the tendency to base decisions on prior experience or historical events. Individuals who display this bias will base their assessment of the likelihood of a result on how quickly they can recall the information. Overconfidence is an emotional bias, as opposed to availability bias, which is an information-processing bias and a cognitive error. Because of availability bias, an investor who has lost money in the stock market begins to assume that the markets are overly hazardous and avoids investing in them.

Availability bias illustrates the way an investor's perspectives might get too influenced by their experiences and so become wholeheartedly out of sync with realities. Investors are frequently caught minimising the incorrect risk as a result of availability bias. This is because the investor's view is influenced by their own life events, which are unpredictable. Availability bias makes investors overreact to market news. For example, they are the investors that cause market volatility after an unexpected earnings release. These investors also trade excessively when the business issues a product recall. Individuals who monitor their investments too closely are prone to availability bias. While monitoring your assets' behaviour is essential, constantly tracking their every move is incorrect. The greater importance an individual gives to his investments, the more inclined they are to make an overly hasty and incorrect judgement. The finest method to avoid availability bias is to filter out the news about our investments and respond rationally ([Juneja, 2019](#)).

### **Locus of control**

"Locus of Control is a psychological theory that has evolved from social learning theory, a theory that aims to integrate elements from both the behavioural and cognitive schools of learning

theory" ([Ntayi,2005](#)). [Rotter \(1966\)](#) developed the concept of LOC, which refers to the human perception of one's ability to control the environment. Individuals on the inside believe they are affecting the environment, while individuals on the outside believe that their lives are governed by external factors.

Locus of Control is the step of influence people trust they have over the outcomes of their behaviour or actions. Individuals with an internal Locus of Control often anticipate their activities, which leads to predictable consequences and makes them more action-oriented or prompt than external individuals ([Hoffman et al., 2000](#)) "Locus of control is an activity in which a person associates events in his life with external causes that are beyond his control ([Robbins, 2001](#)). An individual's understanding of the underlying principal causes of events in his or her investment decisions is called the locus of control. According to this theory, investors underestimate their forecast error variance because they overestimate their own talents and perceived popularity. It is constant with research shows that people overvalue their talents and have positive self-perceptions. Experiments have shown that people underestimate the error variance when making predictions. Overestimation is a type of overconfidence bias, and availability bias also affects LOC in investors' investment decisions.

### **Investment Decisions**

The "investment decision" a stock trader makes is the dependent variable. It is evaluated using seven variables that were taken from [Khan et al. \(2017\)](#) and are based on fundamental analysis, historical highs, historical prices, historical profits, and rises in high-volume trading. Currently, information from earnings announcements is used to make investment decisions. Market data is used to determine expected returns. Market models determine the difference between actual and expected returns for each security in the event window. In the Indian market, behavioural finance is regarded as the key factor in each investment decision.

In order to lower risk and uncertainty, investors and investment managers make investment decisions. Investors often do investment analysis using judgement, technical analysis, and fundamental analysis. Decision aids frequently assist with financial choices. It is claimed that market information systems and determinants systematically affect individual investment choices and market results ([Mutswenje, 2014](#)). This study provides an analysis of investor saving and investment decision-making in the Indian market. Our research shows that behaviour plays a key role in making smart investment decisions. Therefore, choosing an investment option requires the full behavioural pattern of the investor, including life goals, spending patterns, expenses, income, and perceptions of investments.

### **RESEARCH METHODOLOGY**

This research study thoroughly evaluated the existing empirical literature in numerous articles which were published in various articles in different countries and online data bases to frame a structured questionnaire. The questionnaire consists of the demographic characteristics of investors' information and determines the individual investors' investment behaviour such as behavioural bias respectively (Overconfidence bias and Availability heuristic bias) and deterrent influence of the locus of control on investment decisions when making

decisions about investments in the stock market, it means the survey understanding about the behavioural factors affect the investors’ decisions. There are 20 objects in the structured (close-ended) questionnaire that were asked to collect data from stock market investors and financial institutions.

The questionnaire is sent for the cluster sampling method and quantitative research approaches to the sample of 146 respondents. The respondents answered the questions on a quantitative scale, respectively Scale 1 – Strongly Disagree to Scale 5 – Strongly Agree, which denotes the “5 Point-Likert Scale”. The 5-point Likert scale, which is rating the investors’ opinions and behaviour process of the decision-making of the investments as well as the effect of LOC on the behavioural factors on the investment decision of the investors. After data collection, descriptive analysis, Chi-square, and regression analysis were applied through SPSS software, and interprets were statistically analyzed. Before incorporating a large number of related variables into other studies like multiple regression or multivariate analysis of variance, factor analysis is particularly helpful for condensing the variables into a manageable set. Adding extra statements to the questionnaire may not always result in a thorough knowledge of the variables. These investigations were carried out in order to find the empirical inquiry to evaluate the result of behavioural factors and investment decisions within the Trichy district.

## RESULT AND DISCUSSION

**Table – 1 Socio-Economic Background**

S.NO	VARIABLES	CHARACTERS	Frequency	Valid Percent	Cumulative Percent
1	Age	Less than 20	38	26	26
		20 - 29	72	49.3	75.3
		30 - 39	22	15.1	90.4
		40- 49	9	6.2	96.6
		50-59	2	1.4	97.9
		60 and Above	3	2.1	100
		<b>Total</b>	<b>146</b>	<b>100</b>	
2	Gender	Male	105	71.9	71.9
		Female	41	28.1	100
		<b>Total</b>	<b>146</b>	<b>100</b>	
3	Marital status	Married	78	53.4	53.4
		Unmarried	68	46.6	100
		<b>Total</b>	<b>146</b>	<b>100</b>	
4	Education	Below HSC	24	16.4	16.4
		Graduate	57	39	55.5
		Post Graduate	38	26	81.5
		Professional	20	13.7	95.2
		Others	7	4.8	100
		<b>Total</b>	<b>146</b>	<b>100</b>	



**A STUDY OF BEHAVIOURAL FINANCE DETERMINING FACTORS AND THE MODERATING EFFECT OF LOCUS OF CONTROL ON INDIVIDUAL INVESTORS INVESTMENT DECISIONS**

5	<b>Occupation</b>	Employed in Pvt. Organization	48	32.9	32.9
		Government Employee	14	9.6	42.5
		Business person	24	16.4	58.9
		Professional	34	23.3	82.2
		House Wife	13	8.9	91.1
		Student	13	8.9	100
		<b>Total</b>	<b>146</b>	<b>100</b>	
6	<b>Income</b>	Less than Rs. 20,000	70	47.9	47.9
		Above Rs.20k and upto 40k	29	19.9	67.8
		Above 60k and upto 80k	28	19.2	87
		Above 80k and up to 1 L	12	8.2	95.2
		Above 1 L	7	4.8	100
		<b>Total</b>	<b>146</b>	<b>100</b>	
7	<b>Money invested in stock markets</b>	Upto 50k	62	42.5	42.5
		Above 50k and upto	53	36.3	78.8
		Above 1L and upto 1.5 L	21	14.4	93.2
		Above 1.5L and upto 2 L	4	2.7	95.9
		Above 2L and upto 2.5 L	6	4.1	100
		<b>Total</b>	<b>146</b>	<b>100</b>	
8	<b>Are you a trader or an investor</b>	Trader	20	13.7	13.7
		Investor	126	86.3	100
		<b>Total</b>	<b>146</b>	<b>100</b>	
9	<b>Experience of the investor</b>	Less than 2 yrs.	10	6.8	6.8
		2-5 yrs.	81	55.5	62.3
		6 -10 yrs.	41	28.1	90.4
		11- 15yrs.	12	8.2	98.6
		Above 15 yrs.	2	1.4	100
		<b>Total</b>	<b>146</b>	<b>100</b>	

The above table clearly shows that of the 146 respondents, 49.3% were under 20–29 years old, 26% were less than 20 years old, 15.1% were 30–39 years old, 6.2% were under 40–49 years

old, 2.1% were 60 years old and above, and 1.4% were 50–59 years old. 71.9% of the respondents are male, and remain 28.1% are female. 53.4% of respondents are married, and 46.6% unmarried. 39% of respondents are graduates, 26% have a postgraduate degree, 16.4% are below HSC, 13.7% are professionals, and 4.8% are others. 32.9% of the respondents are employed in a private organisation, 23.3% are professionals, 16.4% are business people, 9.6% are government employees, and 8.9% are housewives and students According to the table, 47.9% of the respondents earn less than 20,000 rupees, 19.9% earn more than 20,000 rupees, and up to 40,000 rupees, 19.2% earn more than 60,000 rupees. Rs.80,000 Income Rs. 8.2% of the respondents earn more than 80,000 rupees and up to 1,000 rupees and 4.8% earn more than 1,000 rupees.

The table above shows that of 146 respondents, 42.5% of the respondents have invested money in stock markets up to 50k, 36.3% of the respondents have invested money in stock markets up to more than 50k, and 14.4% of the respondents are invested in more than 1L and up to 1.5L, 2.7% of the respondents are invested in more than 1.5L and up to 2L, and 4.1% of the respondents are invested in more than 2L and up to 2.5L. 86.3% of the respondents are investors, and the remaining 13.7% are traders. The table shows that 55.5 % of respondents have 2-5 years of experience in the market, 28.1 % have 6 to 10 years of experience, and 158.2% have 11-15 years of experience. 6.8% have less than 2 years of experience, the remaining 1.4% have more than 15 years of experience.

**Table – 2 Money invested in stock markets and Gender of the respondents**

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	15.063 <sup>a</sup>	4	0.005
Likelihood Ratio	16.36	4	0.003
Linear-by-Linear Association	2.19	1	0.139
<b>N of Valid Cases</b>	<b>146</b>		

SPSS presents numerous tests for significance, and we will first be cognizant of the Pearson Chi-square take a look at. This takes a look at begins by using forming the Pearson to take a look at statistics asymptotically from the determined and anticipated cell counts. For every cell, the distinction between the determined and expected counts is decided and squared. This superb variety is then divided by way of the predicted range to account for the difference in cell size. After this value is decided for each cellular, it is summed throughout all cells to attain our check statistic, which is 15.063.

This statistic is defined as the chi-square distribution of the null hypothesis with a degree of freedom of 4. The statistic is compared to the corresponding distribution of chi-square, resulting in an Asymptotic Significance (2-sided) p-value of .005. Here we see that the p-value is less than .05, and the relationship between the categorical variables, money invested in the stock market, and the gender of the respondent were examined to look for associations. Chi-square checks with 4 levels of freedom turned into completed, ensuing in a statistic of 15.063. This results in an asymptotic sig. the p-value of less than 0.001, so the null hypothesis that the money invested

in the stock market and the gender of the respondent are independent and therefore there is some association between the variables rejected.

**Table - 3**

<b>KMO and Bartlett's Test</b>		
<b>Kaiser-Meyer-Olkin Measure of Sampling Adequacy.</b>		<b>0.624</b>
Bartlett's Test of Sphericity	Approx. Chi-Square	548.976
	df	190
	<b>Sig.</b>	<b>0.001</b>

Exploratory factor analysis helps to identify the categories of behavioural variables. The Kaiser-Meyer-Olkin measure (KMO) of sample adequacy and Bartlett's test of sphericity are both shown in the table above table. The sample size is adequate, and the factor analysis is acceptable for the data, as indicated by the statistical value of KMO ( $0.624 > 0.6$ ) mentioned above. The suitability of the correlation matrix is tested using Bartlett's test for sphericity. At least some of the variables in the correlation matrix have extremely significant correlations, as shown by the results of Bartlett's test for sphericity, which is highly significant at  $p < 0.001$ . Here, the test value is 548.976, and the significance threshold at 190 degrees of freedom (df) is less than 0.001, which results in a p-value of 0.001. Thus, the result was that the sample is appropriate for factor analysis application, and the following values suggest that factor analysis is appropriate and suitable for these variables, being more than 0.5.

**Table – 4 Normality Test for Distribution of Investment Decisions of Investors**

N	Mean	Median	Min	Max	Skewness		Kurtosis	
					Statistic	Std.Error	Statistic	Std.Error
146	77.6918	78.0000	67.00	85.00	-0.250	0.201	0.136	0.399

The above table 4 shows the Skewness is -0.250 with a standard error of 0.201. This gives a measure of skewness of  $-0.250/0.201 = -1.244$ . Kurtosis is 0.136 with a standard error of 0.399, giving a value of  $0.136/0.399 = 0.341$ . Based on the Z value for the normality test, either or both the Skewness and Kurtosis value should be within the range value  $\pm 1.96$ .

**Table – 5 Model of Summary**

	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Std. Error of the Estimate	Durbin-Watson
1	.538 <sup>a</sup>	0.290	0.242	2.80074	1.458

- a. Predictors: (Constant), Overconfidence Bias, Availability Bias, Locus of Control, Investment Decision
- b. Dependent Variable: Investor Decision-Making

**Table – 6 ANOVA**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	434.328	9	48.259	6.152	<0.001

	Residual	1066.803	136	7.844		
	Total	1501.130	145			

- a. Predictors: (Constant), Overconfidence Bias, Availability Bias, Locus of Control, Investment Decision
- b. Dependent Variable: Investor Decision- Making

**Table 7 Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	77.692	0.232		335.181	0.000
	X1	0.482	0.233	0.150	2.072	0.040
	X2	0.744	0.233	0.231	3.200	0.002
	X3	0.840	0.233	0.261	3.613	0.000
	X4	0.980	0.233	0.304	4.212	0.000

Regression analysis examines the influence of independent factors on dependent variables, representing the cause and effect of the variables. In the above model summary in Table 5, R<sup>2</sup> is .290, which means that 29% of the variation in the dependent variable can be explained by the variation in the independent variable. The remaining 71% should be clarified by other factors not involved in this model. The adjusted R-value was .242, which means the 24.2% of variation, is described by the variation in the independent variable. The Durbin-Watson (DW) statistic of 1.458 indicates that there is no auto correction.

The F value was 6.152, and the P value was significant at this level. The ANOVA Table 6 demonstrates that the regression equation is significant. It suggests that at least one model parameter is significant. As per the R of un standardized coefficient beta generated above table, the equivalence is,

$$Y = a + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4$$

Converts,

$$Y = 77.692 + 0.482x_1 + 0.744x_2 + 0.840x_3 + 0.980x_4.$$

From the above coefficient table 7, we see that the parameter X1, i.e.,  $\beta_1$ , is significant with a p-value of 0.040, the parameter X2, i.e.  $\beta_2$ , is significant with a p-value of 0.002, and the parameters X3, and X4 are also significant with a p-value of 0.000. Therefore, given the coefficients ( $\beta_1=0.150$ ,  $\beta_2=0.231$ ,  $\beta_3=0.261$ ,  $\beta_4=0.304 \neq 0$ ), where the betas are not equal to zero, we reject the null hypothesis and also accept the alternative hypothesis, which states that the parameter determining overconfidence bias, the availability bias, and the effect of locus of control that determined the investor's investment decision is significant.

### FINDINGS AND SUGGESTION

The study found that overconfidence, availability bias, and locus of control are statistically significant to impact the investment decision of individuals. The positive and strong parameter of the model is significant. The study findings back up numerous studies conducted in the zone of

Behavioural Finance. The findings indicate that overconfidence and the availability of heuristics bias are prevalent among investors while making investment decisions, as well as the effective Locus of control (LOC) of individual investors' investment judgments. Overconfidence bias arbitrates the relationship between availability bias and the investors' investment decisions in part because investors lack knowledge of finance to avoid the prevalent psychological variables that affect them. Other developing market investors, researchers, and researchers are able to benefit from these findings and become aware of these lousy choice variables. Academics can utilize these findings to identify other related behavioural aspects and functions in a single model.

This research contributes to the field of behavioural finance by presenting overconfidence bias as a link between availability bias and investment decisions. In the future, researchers can employ the same methodology to compare emerging states or countries. Other cognitive biases, such as confirmation bias, disposition effect, representative bias, and so on, can be incorporated into the current theoretical paradigm. These findings will be useful to policymakers to instruct investors on how to avoid these psychological aspects when trading in order to get positive and larger returns without making mistakes. The research study reached out to only 146 individual investors. Future studies might aim for 200 to capture the genuine dynamic of individual investment decisions and employ analytical methods other than regression analysis.

## CONCLUSION

The objectives of this article were to determine whether investors' investment decisions are influenced by overconfidence bias and availability bias, as well as the moderating effect of the locus of control in influencing individual investors' investment decisions. According to [Nofsinger and Richard \(2002\)](#), individual investment behaviour focuses on deciding to acquire the least wealth in one account. In the study, the Locus of Control significantly alters the relationship between overconfidence bias and investment decisions. Regarding the effects of LOC on how independent factors like availability and overconfidence affect investing decisions. There are two areas of consideration: Overconfidence bias is the most common judgement bias and Availability bias is the availability of information that significantly influences the investment decision-making of the individuals. Certain optimized decisions should be made by prudent and knowledgeable investors. It was found that the above behavioural aspects are important for the investor's investment decision. Individual investors consider these aspects in their investment decisions. Finally, this paper finds that behavioural factors significantly affect investors' individual investment decisions in the market. Behavioural biases continue to influence people's judgement in making financial decisions. It is not a separate discipline, but an increasing part of mainstream finance. Behavioural finance is vital in the decision-making process of individuals, companies, or other investors or people. The rapid development of Behavioural Finance in the coming years will improve the efficiency and power of investors.

## REFERENCES

1. Alsabban, S., & Alarfaj, O. (2020). *An empirical analysis of behavioral finance in the Saudi stock market: Evidence of overconfidence behavior. International Journal of Economics and Financial Issues*, 10(1), 73.
2. Areiqat, A. Y., Abu-Rumman, A., Al-Alani, Y. S., & Alhorani, A. (2019). *Impact of behavioral finance on stock investment decisions applied study on a sample of investors at Amman stock exchange. Academy of Accounting and Financial Studies Journal*, 23(2), 1-17.
3. Barber, B. M., & Odean, T. (2000). *Trading is hazardous to your wealth: The common stock.*
4. Barberis, N., & Thaler, R. (2003). *A survey of behavioural finance. Handbook of the Economics of Finance*, 1, 1053-1128.
5. Belsky, G., & Gilovich, T. (2010). *Why smart people make big money mistakes and how to correct them: Lessons from the life-changing science of behavioural economics. Simon and Schuster.*
6. Bhoj, J.. *A Study of Origin and History of Behaviour Finance with Special Reference to India*
7. Birnbaum, M. H. (2008). *New tests of cumulative prospect theory and the priority heuristic: Probability-outcome tradeoff with branch splitting.*
8. Ceren, U. Z. A. R., & Cenk AKKAYA, G. (2013). *The mental and behavioral mistakes investors make. International Journal of Business and Management Studies*, 5(1), 120-128.
9. Chen, J., & Wang, L. (2007). *Locus of control and the three components of commitment to change. Personality and individual differences*, 42(3), 503-512.
10. Daniel, K., Hirshleifer, D., & Subrahmanyam, A. (1998). *Investor psychology and security market under-and overreactions. the Journal of Finance*, 53(6), 1839-1885.
11. De Bondt, W. F., & Thaler, R. (1985). *Does the stock market overreact?. The Journal of finance*, 40(3), 793-805.
12. De Bondt, W. F., & Thaler, R. H. (1995). *Financial decision-making in markets and firms: A behavioral perspective. Handbooks in operations research and management science*, 9, 385-410.
13. Gill, S., Khurshid, M. K., Mahmood, S., & Ali, A. (2018). *Factors effecting investment decision making behavior: The mediating role of information searches. European Online Journal of Natural and Social Sciences*, 7(4), pp-758.
14. Glaser, M., & Weber, M. (2010). *Overconfidence. Behavioral finance: Investors, corporations, and markets*, 241-258.
15. Hammond, R. C. (2015). *Behavioural finance: Its history and its future.*
16. Harrison, G. W., & Rutström, E. E. (2009). *Expected utility theory and prospect theory: One wedding and a decent funeral. Experimental economics*, 12(2), 133-158.
17. Hemalatha, S. (2019). *Factors influencing investment decision of the individual related to selected individual investors in Chennai city. Age*, 30, 31-40.

18. Hoffman, D. L., Novak, T. P., & Schlosser, A. (2000). *Consumer control in online environments*. *Elab. vanderbilt. edu*.
19. Jain, J., Walia, N., Kaur, M., & Singh, S. (2022). *Behavioural biases affecting investors' decision-making process: a scale development approach*. *Management Research Review*, 45(8), 1079-1098.
20. Juneja, P. (2019). *Management Study Guide Content Team. Transactional Leadership Theory* "<https://managementstudyguide.com/transactional-leadership.htm> Accessed on January.
21. Kahneman, D. (1979). *Prospect theory: An analysis of decisions under risk*. *Econometrica*, 47, 278.
22. Kahneman, D., & Tversky, A. (1972). *Subjective probability: A judgment of representativeness*. *Cognitive psychology*, 3(3), 430-454.
23. Kannadhasan, M. (2006). *Role of behavioural finance in investment decisions*. Retrieved December, 29, 2014.
24. Kapoor, S., & Prosad, J. M. (2017). *Behavioural finance: A review*. *Procedia computer science*, 122, 50-54.
25. Keswani, S., Dhingra, V., & Wadhwa, B. (2019). *Impact of behavioral factors in making investment decisions and performance: study on investors of National Stock Exchange*. *International Journal of Economics and Finance*, 11(8), 80-90.
26. Khan, H. H., Naz, I., Qureshi, F., & Ghafoor, A. (2017). *Heuristics and stock buying decision: Evidence from Malaysian and Pakistani stock markets*. *Borsa Istanbul Review*, 17(2), 97-110.
27. Lintner, G. (1998). *Behavioural finance: Why investors make bad decisions*. *The planner*, 13(1), 7-8.
28. Lodhi, S. (2014). *Factors influencing individual investor behaviour: An empirical study of city Karachi*. *Journal of Business and Management*, 16(2), 68-76.
29. Mutswenje, V. S. *A Survey of the Factors Influencing Investment Decisions: The Case of Individual Investors at the NSE*.
30. Nevins, D. (2004). *Goals-based investing: Integrating traditional and behavioral finance*. *The Journal of Wealth Management*, 6(4), 8-23.
31. Nofsinger, R., & Richard, P. (2002). *Individual investments behavior*.
32. Ntayi, J. M. (2005). *Work ethic, locus of control and salesforce task performance*. *Journal of African Business*, 6(1-2), 155-176.
33. Ntayi, J. M. (2005). *Work ethic, locus of control and salesforce task performance*. *Journal of African Business*, 6(1-2), 155-176.
34. Rekik, Y. M., & Boujelbene, Y. (2013). *Determinants of individual investors' behaviors: Evidence from Tunisian stock market*. *IOSR Journal of Business and Management*, 8(2), 109-119. *investment performance of individual investors*. *The journal of Finance*, 55(2), 773-806.

35. Ricciardi, V., & Simon, H. K. (2000). *What is behavioural finance? Business, Education & Technology Journal*, 2(2), 1-9.
36. Ritter, J. R. (2003). *Behavioral finance. Pacific-Basin finance journal*, 11(4), 429-437.
37. Robbins, S. P. (2001). *Organisational behaviour: global and Southern African perspectives. Pearson South Africa.*
38. Rotter, J. B. (1966). *Generalized expectancies for internal versus external control of reinforcement. Psychological monographs: General and applied*, 80(1), 1.
39. Rutström, E. E., & Wilcox, N. T. (2009). *Stated beliefs versus inferred beliefs: A methodological inquiry and experimental test. Games and Economic Behavior*, 67(2), 616-632.
40. Sattar, M. A., Toseef, M., & Sattar, M. F. (2020). *Behavioral finance biases in investment decision making. International Journal of Accounting, Finance and Risk Management*, 5(2), 69.
41. Sent, E. M. (2004). *The legacy of Herbert Simon in game theory. Journal of Economic Behavior & Organization*, 53(3), 303-317.
42. Sewell, M. (2011). *History of the efficient market hypothesis. Rn*, 11(04), 04.
43. Shefrin, H. (2000). *Recent developments in behavioral finance. The Journal of Wealth Management*, 3(1), 25-37.
44. Shefrin, H. (2008). *A behavioural approach to asset pricing. Elsevier.*
45. Shiller, R. J. (2003). *From efficient markets theory to behavioural finance. Journal of economic perspectives*, 17(1), 83-104.
46. Shleifer, A. (2000). *Inefficient markets: An introduction to behavioural finance. Oup Oxford.*
47. Simon, H. A. (1966). *Theories of decision-making in economics and behavioural science. In Surveys of economic theory (pp. 1-28). Palgrave Macmillan, London.*
48. Singh, R. (2009). *Behavioural finance-The basic foundations. ASBM Journal of Management*, 2(1), 89.
49. Singh, R. (2010). *Behavioural finance studies: emergence and developments. Journal of Contemporary Management Research*, 4(2), 1.
50. Slovic, P., Fischhoff, B., & Lichtenstein, S. (1977). *Behavioural decision theory. Annual review of psychology*, 28(1), 1-39.
51. Statman, M., Fisher, K. L., & Anginer, D. (2008). *Affect in a behavioural asset-pricing model. Financial Analysts Journal*, 64(2), 20-29.
52. Tversky, A., & Kahneman, D. (1974). *Judgment under Uncertainty: Heuristics and Biases: Biases in judgments reveal some heuristics of thinking under uncertainty. science*, 185(4157), 1124-1131.
53. Virigineni, M., & Rao, M. B. (2017). *Contemporary developments in behavioural finance. International Journal of Economics and Financial Issues*, 7(1), 448-459.
54. Watson, J. B. (1913). *Psychology as the behaviorist views it. Psychological review*, 20(2), 158.



55. Watson, J. B. (1913). *Psychology as the behaviorist views it*. *Psychological review*, 20(2), 158.
56. Gopinath, R., Vasan, M. & Sumathy, M. (2019). *Attitude of Individual Investors towards Commodity Trading in Disruptive Technological Era*, *International Journal of Engineering and Advanced Technology*, 8(6), 1720-1723. DOI: 10.35940/ijeat.F8426.088619. <https://www.ijeat.org/wp-content/uploads/papers/v8i6/F8426088619.pdf>.
57. Selvam, M., Thanikachalam, V., Gopinath, R., Kathiravan, C., Amirdhavasani, S., & Dhanasekar, D. (2019). *Intellectual Capital Performance and its Impact on Indian Commercial Banking Industry*, *Journal of Engineering and Applied Sciences*, 14(8), 2610-2619. DOI: 10.36478/jeasci.2019.2610.2619
58. Pavithran, A., Selvam, M., Gopinath, R., & Kathiravan, C. (2018). *Effects of Adopting International Financial Reporting Standards: An Empirical Evidence from selected Indian Companies*, *International Academic Journal of Accounting and Financial Management*, 5(4), 137-147. ISSN 2454-2350