Economic Sciences
https://economic-sciences.com
ES (2025) 21(2), 220-236| ISSN:1505-4683

Behaviour Biases and Investment Decisions: How Gender Affects the Decision-Making Process

Dr. Gopal Ji Srivastava[1], Dr. Kumar Deepak Raja[2], Dr. Nishant Dabhade[3]
[1,2] Assistant Professor, Faculty of Commerce & Management, United University, Prayagraj, U.P.
[3] Associate Professor, Faculty of Commerce & Management, United University, Prayagraj, U.P.

Abstract

Purpose – The objective of the research is to examine the gender's moderation effect on the influence of behavioural biases on the investing decisions of retail investors.

Design/methodology/approach – The study used a deductive approach as it was based on behavioural finance. A total of 250 retail investors were surveyed using a standardized questionnaire. Regression & moderation analysis were used to analyse the hypotheses. The moderation analysis was performed using the PROCESS MACRO technique.

Findings – It was observed that all of the behavioural biases that were considered for the study have a beneficial influence on investment decisions; however, gender did not moderate any of the relationships that were found to exist between behavioural biases & investment decisions. In addition to this, a positive correlation may be seen between each of the behavioural biases and the investment choice.

Originality/value – This is the first study to examine gender as a moderator between behavioural biases and investing decisions. This article improved understanding of behavioural factors and their impact on investing decision-making process. The study's findings will increase investors' understanding of the financial decision-making approach.

Keywords: Behavioural biases, overconfidence, representative bias, investment decision, gender, herding factor.

JEL Classification: G41, G11, D91, D01, J16

INTRODUCTION

As a result of having access to all market knowledge and market efficiency, previous financial theories have supported the idea that investors are rational. Individual investors favour low to high risks for a specified return; they are rational and risk-averse, as argued by Markowitz (1952) theory. These theories contend that rational choices are always made by investors. Market efficiency has been outlined by Fama (1970). Modern portfolio theory and the concept of an efficient market rest on the assumption that investors act rationally and markets function efficiently, however behavioural finance contends that investors are normal rather than rational (Asad et al., 2018).Because of market efficiency, even if some investors make biased decisions, the price of securities remains aligned with fair value. Investors are viewed as consistent, objective, and impartial actors in an efficient market, making the best choices without being swayed by their sentiments or mindset (M. Ahmad & Shah, 2020; Shah et al., 2018). However, in reality, investors act irrationally in the market and are affected by their feelings, different behavioural biases, mental health, level of knowledge, upbringing, surroundings, etc. They engage in excessive trading, buy stocks without considering their fundamentals, buy stocks that their friends are purchasing, and base their choices on the stock's short-term performance (M. Ahmad & Shah, 2020; Shah et al., 2018). The effects of different psychological biases on investment decisions are ignored by earlier financial theories.

By putting forth a Prospect Theory, Kahneman & Tversky (1979) posed a challenge to conventional finance theories. This theory has emerged as one of the most crucial behavioural finance instruments for explaining a number of biases that influence decision-making in risky situations (De Bortoli et al., 2019). According to prospect theory, psychological influences can lead people to make irrational decisions when faced with risk and

ambiguity by exhibiting cognitive biases (F. Ahmad, 2020; M. Baker & Wurgler, 2007; Kahneman & Tversky, 1979). The prospects theory states that some psychological elements influence how investors make decisions. Investors deviate from making rational choices as a result of these factors. Investors make different choices and have different attitudes towards situations that involve gains versus situations that involve losses when faced with uncertain circumstances. Four fundamental components—reference reliance, loss aversion, diminishing sensitivity, and probability weighting—form the basis of the decision-making process (Asad et al., 2018; Tversky & Kahneman, 1992).

Numerous behavioural researchers assert that humans have psychological biases that obstruct rational decision-making, leading to adverse investment results and inferior investor performance (M. Ahmad & Shah, 2020). However, numerous studies have shown that in reality, markets are ineffective due to individual biases and persistent anomalies in the market, which results in inefficiency (M. Ahmad & Shah, 2020; Ajmal et al., 2011). Behavioural asset pricing theory posits that expected returns are determined by factors beyond risk, and that risk is not measured by beta (Asad et al., 2018; Statman, 2014).

The likelihood of investors displaying cognitive biases in their financial decisions is affected by various psychological factors, including personality qualities (Durand et al., 2008, 2013, 2019; Lin, 2011) and gender (Arti & Sunita, 2011).

Gender significantly influences the type and level of investment (Gill & Biger, 2009; Jawaheer et al., 2016). When it comes to investing, men and women continue to adhere to the traditional gender stereotypes. According to the findings of the research, men have more self-confidence, whereas women tend to be more practical and risk-averse. Women tend to be more honest and open about their level of professional development. They place a greater emphasis on putting money away for retirement. Male investors, on average, exert a touch more self-assurance than their female counterparts, although this trait is not necessarily a positive one.

Males are more likely to base their choices on logic and evidence, while females are more likely to be guided by their emotions (Arti & Sunita, 2011). Men are more likely to put their money into riskier investments such as the stock market, cryptocurrencies, and other options, whereas women are more likely to put their money into more secure investments such as health and life insurance, fixed deposits, and other options, and they try to minimise risk (Bhushan & Medury, 2013; Jawaheer et al., 2016). Felton et al. (2003) give a very scientific explanation of the psychological factors that make women more risk-averse than men. Research indicates that women generally exhibit lower risk-taking behaviour than males due to higher levels of the enzyme "monoamine oxidase," which inhibits their pursuit of euphoric experiences. This shows that women would prefer less risk because it would be less stressful.

Behavioural finance is valuable because it sheds light on the "why" and "how" of possible market inefficiency. It acknowledges the impact of the human psyche on investors' and financial professionals' decision-making (Asad et al., 2018). Different factors, such as overconfidence, financial understanding, qualifications, gender, environment, upbringing, age, experience, etc., have an impact on investment decisions. Understanding how these factors affect investment decisions is essential. The objective of the present research is to study the influence of behavioural biases on investment decision-making, with gender serving as a moderating variable. The moderation analysis is considered beneficial for understanding the intricate relationship between behavioural biases and investment decisions.

The theoretical areas of research on behavioural biases and gender differences are combined with the literature on investment choice in the current study. As a result, this paper offers new theoretical insights into the relationship between behavioural biases and decision-making by examining the impact that gender has on the choice of investments.

The findings of the current research also offer important information about the part gender plays in investment decisions. In order to understand the influence of behavioural prejudices over investment decisions with the moderating role of gender, empirical research was required. The majority of

Economic Sciences
https://economic-sciences.com
ES (2025) 21(2), 220-236| ISSN:1505-4683

studies conducted focused on gender differences in investment decision-making, and some direct checks the impact of behavioural biases on investment decisions. The findings of this research will be helpful for Indian financial gurus to understand their own behavioural biases and how gender influences those biases.

LITERATURE REVIEW & HYPOTHESIS DEVELOPMENT

Investment Decision

An investment decision means when an individual, company or firm purchases an asset (either real or financial assets) with a view to earning a return in future. Two or more commodities can be found in a portfolio of investments. A person is said to be an investor if they put money into an investment product with the intention of earning a return. An investor's primary goal is to maximise returns while minimising danger. Every investor wishes to choose the best investments (Sharpe, 1964) & effective financial decision-making requires advanced financial understanding (Merton, 1987). However, making sound investment choices requires a sound decision-making process (Zeb et al., 2020). Aren et al. (2016) argued that informational and cultural factors contribute to the home bias, that overconfidence and experience contribute to the disposition effect, and that public information and reputational concerns influence the herding effect.

Herding Factor

The herding factor is a phenomenon in which individuals follow groups and mimic the behaviours of others on the grounds that they have presumed that others have already conducted their due diligence. This assumption leads individuals to believe that they do not need to undertake their own due diligence. Herd instincts are common in every area of society, including the financial business. Instead of depending on their own understanding of the market, investors in this field typically follow what they believe other investors are following. According to Caparrelli et al. (2004), the herding is one of the factors that contribute to the formation of speculative bubbles. The phenomenon known as "herding" may lead to improved decision-making as a result of the accumulation of favourable knowledge. According to Tan et al. (2008), the herding effect has the potential to lead share prices to stray from their underlying intrinsic value. It is possible that this will have an effect on the perspectives of asset pricing theories as well as the characteristics of return & risk models. However, practitioners are worried about how the herding effect is employed to seek profit from variations in stock prices. According to Bennett et al. (2012), the advent of the Internet has made it possible to do business in a more expedient manner, at a lower cost, and with less difficulty. The procedure for delivering information and conducting trades has been modified; as a result, investors are now able to respond more quickly to the introduction of fresh information through the use of online trading. The sentiment of investors is considerably more easily changed by market news and is very volatile in today's world. When investors do not have a lot of time to make judgments about investments, they are more prone to just copying the actions of other investors rather than trying to comprehend the information that they get (Gavrilakis & Floros, 2022). Herding behaviour can have a variety of causes, depending on the type of investment being considered. Herding behaviour may be demonstrated by individual investors, for instance, when they make investment decisions in accordance with the actions of other investors, huge groups, or noisy traders. Additionally, institutional investors tend to rely on their prior experiences or the choices they made on investments in the past. In certain instances, they duplicate the choices made by other institutional investors in order to safeguard their money and reputation. This is done to alleviate the pressures that both of these factors place on them.(Kumar & Goyal, 2015).

H_{01}: There is no significant impact of the Herding Factor on the Investment Decision.

H_{02}: Gender does not moderate between the Herding Factor on Investment Decisions.

Overconfidence Bias

People have a widespread tendency to overestimate their knowledge, authority, and talents, and this tendency is known as the overconfidence bias. It's possible that this will affect how individuals think, react, and act in connection to certain

Economic Sciences
https://economic-sciences.com
ES (2025) 21(2), 220-236| ISSN:1505-4683

responsibilities, methods, and outcomes. According to Bondt and Thaler (1995), an investor's overconfidence can have a substantial impact on their judgement when it comes to making judgments on investments. The overconfidence of investors leads to an overestimation of the information's capabilities, accomplishments, and chance of being accurate. Shiller (1997) asserts that overconfident persons will commit errors with inappropriate error margins. Odean (1998b) demonstrates that overconfidence leads to a rise in trade volume, which has a direct impact on the financial markets. Because overconfident traders feel that the more specific information showing the results of the information's weight is highly significant. Odean (1998a) explores the emotional and cognitive influences on the trading behaviour of investors. When a trade is profitable, investors feel a sense of pride, and when a loss happens, they feel sorrow. Experiments were conducted to determine the impact that overconfidence plays in investing decisions by Dittrich et al. (2001), the accuracy of an investment decreases according to the investor's propensity for displaying excessive confidence. Investment choices are negatively impacted by overconfidence. It means that the more overconfident an investor is, the less accurate his or her investing judgments will be (Rahman & Gan, 2020).

H_{03}: There is no significant impact of overconfidence on investment decisions.

H_{04}: Gender does not moderate between overconfidence and investment decisions.

Prospect Factor

Prospect theory is a psychological approach that elucidates how individuals make decisions among alternatives involving risk, probability, and uncertainty. It says that decisions are influenced by how people feel they will win or lose something. The concept known as "loss-aversion," posits that when two options are provided to an individual, identical in all respects but one offering potential benefits and the other possible losses, the individual will pick for the option with prospective profits. Psychologists Daniel Kahneman and Amos Tversky formulated a hypothesis to elucidate how individuals make judgements when presented with multiple possibilities. Prospect theory posits that individuals exhibit risk aversion in the context of benefits and risk-seeking behaviour in the context of losses. The value function exhibits an S-shaped configuration, characterised by convexity beneath the reference point and concavity above it. The value function is often concave for profits and convex for losses, exhibiting a higher slope for losses compared to wins. It is characterised by displacements from a reference point (De Bortoli et al., 2019)

H_{05}: There is no significant impact of prospect factor on investment decision.

H_{06}: Gender does not moderate between prospect factor and investment decision.

Familiarity Bias

“Investor’s chief problem and his worst enemy is likely to be himself.” – Benjamin Graham. The term "familiarity bias" refers to the tendency to avoid investing in securities or investment opportunities that we are unfamiliar with. As a result, we don't have diversified portfolios and forgo investing in opportunities that would have provided higher returns.

H_{07}: There is no significant impact of familiarity bias on investment decisions.

H_{08}: Gender does not moderate between familiarity bias and investment decision.

Representative Bias

The representativeness heuristic bias occurs when people's views of the likelihood of an occurrence are impacted by similarities between things or events. This can arise when individuals are comparing two different objects or events that are comparable. People are prone to falling into the common error of erroneously believing that there is a stronger association between two related things or events than actually exists. The representativeness heuristic is an example of a common information processing error that is addressed by the behavioural finance theory. In the 1970s, psychologists Amos Tversky and Daniel Kahneman were the first to identify and name the phenomenon known as representative bias. In the process known as representativeness heuristics, a sample is taken from a population that

is thought to be very representative of the population as a whole. People may be able to make decisions more rapidly when they appraise things based on representativeness, but this type of heuristic can also lead to errors in judgement much like other types of heuristics. Simply basing the likelihood of something on the fact that it is more representative will not truly increase its likelihood. Tversky & Kahneman (1974) demonstrated that individuals have an effect on the representativeness heuristic. When faced with the challenge of making decisions in the face of ambiguity, the majority of people base their choices on representative information. According to De Bondt (1998), investors' analyses are typically centred on recent successes and failures, which can skew their assessment regarding future investments. (Budhiraja et al., 2018). Investors tend to purchase shares with good returns that are above average, so the price bias of the past is predictive of the price bias of the future. (Dervishaj, 2018). When people are overweight in current experience and neglect the long-term average rate, the representation may result in a certain degree of prejudice against those people (Ritter, 2003; Keswani et al., 2019). Extrapolate recent past returns of stocks purchased by Chinese investors by using the transaction dates provided by Chen et al. (2007), which is published by a prominent brokerage company. The findings indicates that investors exhibit representational bias. Chun and Ming (2009) discover that Malaysian investors engage in stock trading primarily for rapid financial gain and have tendencies towards representativeness bias and price anchoring bias. Also, they show that investors don't like to lose money and want to make more money without thinking about the risks. According to the findings of Chhabra & De (2012), there is a considerable influence that the consequences of recent failures have on the opportunities currently available to invest. The nature of the traded securities is a more significant indicator than the volume of the trades. When there is a positive sign, it usually means there will be a profitable deal, and vice versa. Investors have a tendency to believe that the outcomes of their previous investments will have a significant influence on the resource distribution decisions they make for their future portfolio of assets. (Zahera & Bansal, 2018)

H_{09}: There is no significant impact of representative bias on investment decisions.

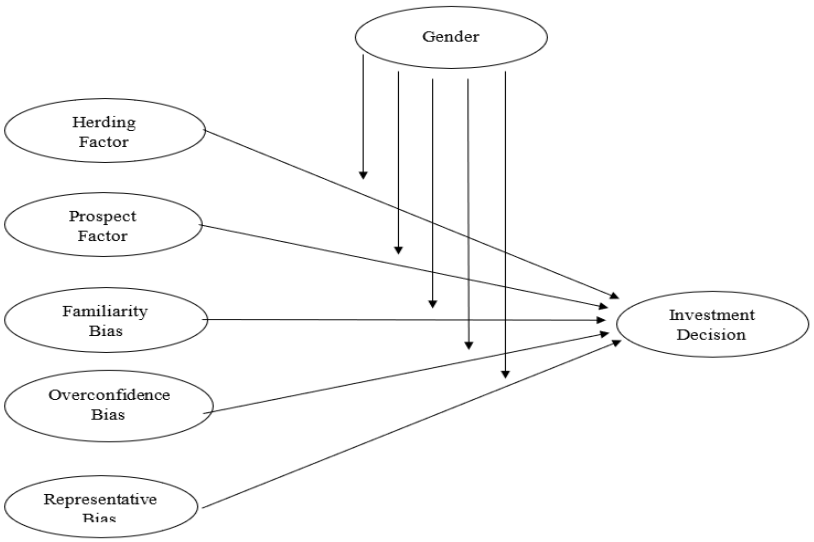
H_{010}: Gender does not moderate between representative bias and investment decisions.

Gender & Investment Decision

There is a widespread proverb among women that goes, "The hand that rocks the cradle commands the world." Women are more likely to have the habit of saving money than males are. Even in past times by, when most women relied on the income of their husbands, they made a habit to put money aside for unexpected expenses as well as for activities in the future. In point of fact, they have been the most important factor in household savings in virtually every society. In the modern world today, where women have greater access to education and employment opportunities and are better informed, they have begun to make their own decisions regarding investments (Jamil & Khan, 2016) When it comes to making decisions regarding investments, previous studies have indicated that women, in comparison to men, have a tendency to be unwilling to take risks, have conservative investment behaviour, have relatively lower levels of financial knowledge, lack confidence, and are dependent on the guidance of others (Sharma & Kota, 2019). Several studies that were conducted recently came to the conclusion that women invest their funds with greater caution than men do (Bajtelsmit & Vanderhei, 1995; Hinz et al., 1996; Sharma & Kota, 2019). They are less risky long-term investors than men, and their main goals with money are to keep it safe and save for long-term goals, like retirement. Sharma & Kota (2019) compared to men, women are less likely to invest in high-risk, high-return assets (Sharma & Kota, 2019). Men are more confident in their abilities than women (Sharma & Kota, 2019). Women are usually less sure of their ability to make good financial decisions and consider investing to be scary. When it comes to traditional investment tools, women have more influence than men, but when it comes to modern investment tools like stocks, bonds, and debentures, men have more influence over women when making investment decisions (Sharma & Kota, 2019). Lascu et al. (1997) also found that women invest in safer vehicles like CDs and government securities,

Economic Sciences
https://economic-sciences.com
ES (2025) 21(2), 220-236| ISSN:1505-4683

whereas men invest in riskier products like high-growth stocks. Women are less likely to engage in risky behaviours, have less of a propensity for overconfidence and overreaction, and, in general, they are not followers of the prospect theory. Additionally, women are more likely to invest with the goal of generating income as opposed to investing for growth (Jaiswal & Kamil, 2012). Baker et al. (2018) found that there is a statistically significant difference between men and women in the domains of overconfidence and self-attribution bias, the disposition effect, mental accounting, and herding bias at the 0.05 significance level. It also says that men are more likely than women to show signs of mental accounting and overconfidence. Females, on the other hand, show a lot more of a disposition effect and herding than males do (Baker et al., 2019).. Men are more confident than women, and retired people are more confident than people who work in the private sector. Also, investors with more than 2 years of experience are more likely to be overconfident and blame themselves than investors with less than 2 years of experience (Baker et al., 2018). There is no correlation between being overconfident and a person's gender while making decisions (Bashir et al., 2013). There is a link between the demographics of investors and how they invest. The results indicate that gender is the most important factor affecting how individual investors choose to invest their money. (Chavali & Mohanraj, 2016; Zahera & Bansal, 2018).



RESEARCH METHODOLOGY

Questionnaire Design

A structured questionnaire was made and used as the main survey tool to collect information. There were two parts to the questionnaire. The first section is meant to find out about the type of investment and the goal of the investment, as well as some basic information about the investor. In the second part, the goal is to find out how behavioural factors affect portfolio construction. Most of the answers were measured using a seven-point Likert scale (1 = Strongly Disagree & 7 = Strongly Agree).

Target Population and Data Collection

Individual investors in the National Stock Exchange, Bombay Stock Exchange, and other securities like bonds, gold, land, etc. were included in the study. Even though this study was done in India and looks at how retail investors in this market make decisions

Economic Sciences
https://economic-sciences.com
ES (2025) 21(2), 220-236| ISSN:1505-4683

and how well they do, it may be useful for investors in other developing countries.

The primary focus of this study is to look into how gender affects the relationship between behavioural characteristics and people's investment decisions. To get the information needed for the study, 362 questionnaires were sent out to individual investors through Google Forms. The response rate was 69%, based on the 250 responses received, all of which were fully completed by the investors and used for analysis. The statistical requirements can be met with this sample size. According to (Hair et al., 2009), a sample size of at least 100 respondents is required for statistical data analysis tools to yield valid results in qualitative research. The researchers in this study used a simple sampling method to collect their information. Interviews, observation, and focus groups are all examples of data collection techniques. This study used a self-reported questionnaire, a common tool in quantitative research, to collect data rather than more time- and resource-intensive alternatives like interviews, videoconferencing, and brainstorming sessions (Bryman & Bell, 2011). Another reason was that individual investors tend to avoid personal interviews and give researchers a lot of time. Questionnaires were thought to be the best way to collect information in this case because people could fill them out when they had time and the researchers couldn't influence them directly.

Research Design

Cross-sectional designs are better than other types of research frameworks, like case studies, experiments, or longitudinal designs, for figuring out how individual investors usually act. This is because the present study needs to look at a large sample at once. The primary goal of this research is to examine the hypothesis because doing so "provides a better understanding of how variables relate to each other" (Sekaran & Bougie, 2016). Since this study is about several things, a correlational study method was used to find out how each thing that affects the outcome or is related to the problem played a role.

Method of Data Analysis

SPSS was used to perform an analysis of the information that was obtained through the questionnaires. To accomplish the goals of the research, statistical methods such as Cronbach's Alpha, Descriptive Statistics, Normality, correlation analysis, regression analysis, and moderation analysis with PROCESS MACRO were applied.

ANALYSIS AND RESULTS

This section comprises four subsections. Subsection 1 delineates the features of the sample. Subsection 2 elucidates the normalcy and reliability of measurement constructs. Subsection 3 provides an explanation of the correlation of measurement constructs. In last, subsection 4 provides details of regression and moderation analysis in order to check hypotheses.

Demographic Analysis

Demographic data is presented in Table 4.1. A total of 250 responders comprises 152 (60.8%) males and 98 (39.2%) females. The predominant age group is 20 to 29 years, comprising 76 percent of the whole sample, followed by the 30 to 39 age group, which constitutes 14.4 percent of the overall sample. The smallest demographic comprises individuals aged 50 to 59 at 2% and those aged 60 and above, also at 2%.

Table 1. *Demographic Analysis*

Variables	***N (%)***
Gender	
Male	152 (60.8)
Female	98 (39.2)
Age	
20 – 29	190 (76)
30 – 39	36 (14.4)
40 – 49	14 (5.6)
50 – 59	5 (2)
60 & above	5 (2)
Marital Status	

Economic Sciences
https://economic-sciences.com
ES (2025) 21(2), 220-236| ISSN:1505-4683

Unmarried	180 (72)
Married	67 (26.8)
Separated	1 (0.4)
Widow	2 (0.8)
Occupation	
Government Employees	43 (17.2)
Private Employees	38 (15.2)
Business	1 (0.4)
Profession	10 (4)
Students	158 (63.2)
Experience	
Less than a year	83 (33.2)
Up to 3 years	88 (35.2)
Up to 5 years	29 (11.6)
More than 5 years	50 (20)

Unmarried respondents comprise 72 per cent whereas married comprise 26.8 per cent while 0.8 per cent of those widowed and 0.4 per cent comprise separated respondents. In terms of occupation, students formed the largest group in this study which consists of 63.2 per cent while government employees stood at 2nd position with 17.2 per cent and private employees at 15.2 per cent followed by professionals at 4 per cent and business at 0.4 per cent. In terms of experience, 35.2 per cent of respondents have experience of up to 3 years followed by participants having experience of up to a year which consists of 33.2 per cent. Participants having experience of up to 5 years consists of 11.6 per cent and 20 per cent of respondents have experience of more than 5 years.

Normality & Reliability Analysis

The data accumulating results of this study revealed no abnormalities, as illustrated in Table 4.2. The skewness and kurtosis values are both within the permitted limits, specifically -1 to +1 for skewness and -3 to +3 for kurtosis.

Table 2. *Normality Analysis*

Descriptive Statistics							
	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
HDF	250	3.5410	1.54503	.144	.154	-.712	.307
PF	250	4.6020	1.18986	-.320	.154	.439	.307
FB	250	4.6510	1.20697	-.322	.154	.130	.307
OCB	250	4.7720	1.26627	-.642	.154	.272	.307
RB	250	5.0660	1.21203	-.757	.154	.966	.307
ID	250	5.3660	1.26964	-.947	.154	1.133	.307
Valid N (listwise)	250						

Source: Analysed Result of SPSS 26

Cronbach's alpha values for each construct in the study span from 0.658 to 0.877, signifying substantial reliability. This method assesses the internal consistency of all underlying items to evaluate the measurement's efficacy in elucidating specific constructs. Cortina (1993) asserts that a high Cronbach's alpha indicates the data's reliability. An alpha reliability coefficient ranging from 0.6 to 0.7 is deemed satisfactory, however an alpha of 0.8 or above is regarded as exceptional. Values exceeding 0.95 may indicate duplication and should therefore be regarded cautiously (Hulin et al., 2001; Ursachi et al., 2015).

Table 3. *Reliability Analysis*

Economic Sciences
https://economic-sciences.com
ES (2025) 21(2), 220-236| ISSN:1505-4683

Particulars	Alpha Value
Herding Factor (HDF)	0.859
Prospect Factor (PF)	0.746
Familiarity Bias (FB)	0.735
Overconfidence Bias (OCB)	0.829
Representative Bias (RB)	0.796
Investment Decision (ID)	0.877

Source: Analysed Result of SPSS 26

The table shows that the Kaiser-Meyer-Olkin (KMO) measure of sample adequacy is likely more than 0.60, whereas Bartlett's test of sphericity is statistically significant ($p < 0.00$). Table 4 shows that the Kaiser-Meyer-Olkin (KMO) measure of sample adequacy is anticipated to surpass 0.60, whereas Bartlett's sphericity test is statistically significant ($p < 0.00$). This study's factor analysis for data reduction is legitimate, as indicated by a Kaiser-Meyer-Olkin measure of sampling adequacy of 0.882 and a significant Bartlett's test of sphericity ($p < 0.01$).

***Table 4**. KMO and Bartlett's Test*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.882
Bartlett's Test of Sphericity	Approx. Chi-Square	2811.156
	df	276
	Sig.	.000
Source: Analysed Result of SPSS 26		

***Table 5.** Total Variance Explained*

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.915	32.978	32.978	7.915	32.978	32.978	3.1	12.916	12.916
2	2.621	10.92	43.898	2.621	10.92	43.898	2.902	12.093	25.009
3	1.644	6.848	50.746	1.644	6.848	50.746	2.642	11.007	36.016
4	1.383	5.761	56.507	1.383	5.761	56.507	2.59	10.793	46.809
5	1.219	5.081	61.587	1.219	5.081	61.587	2.438	10.157	56.966
6	1.143	4.764	66.351	1.143	4.764	66.351	2.252	9.385	66.351
7	0.84	3.498	69.849						
8	0.722	3.007	72.856						
9	0.67	2.793	75.649						
10	0.618	2.574	78.223						
11	0.576	2.401	80.624						
12	0.534	2.226	82.85						
13	0.512	2.133	84.983						
14	0.473	1.969	86.952						
15	0.412	1.716	88.668						
16	0.391	1.629	90.297						
17	0.385	1.603	91.9						
18	0.356	1.482	93.382						
19	0.336	1.399	94.78						
20	0.299	1.247	96.027						
21	0.282	1.177	97.204						
22	0.256	1.068	98.272						
23	0.239	0.998	99.27						
24	0.175	0.73	100						

Economic Sciences
https://economic-sciences.com
ES (2025) 21(2), 220-236| ISSN:1505-4683

Extraction Method: Principal Component Analysis.

Source: Analysed Result of SPSS 26

Factor Analysis

From a total of 24 items on a scale measuring the influence of behavioural biases on financial decisions, a principal components analysis (PCA) revealed 6 key determinants. The results of the PCA-based varimax extraction were displayed in the table. Herding Factor, Prospect Factor, Representation Bias, Overconfidence Bias, Familiarity Bias, and Investment Decision were the factors that were obtained from the variation set, and together they accounted for 66.351% of the total variations. The Investment Decision factor was the first to be reduced using PCA, with its four variable items accounting for 12.916% of the total variations in the variable set. Herding Factor, the second factor, was decreased using principal component analysis (PCA) to identify 4 items that explain 25.009% of the total variances in the variable set. The third most important component, Representative Bias, with its four items, accounted for 36.016% of the total variance. Overconfidence Bias was the fourth important factor that PCA eliminated. It was made up of four items and explained 46.809% of all the differences in the variable set. Prospect Factor was the fifth important factor that PCA eliminated. It explained 56.96% of the total differences in the variable set. Familiarity Bias, the sixth and final significant item reduced by PCA was bias, which explained 66.351% of the total variations in the variable set.

Table 6. *Factor Loadings and Communalities*

Investment Decision & Behavioural Biases		**Factor Loadings**	**Extraction**
Investment Decision	ID1	0.741	0.669
	ID2	0.776	0.772
	ID3	0.815	0.763
	ID4	0.759	0.738
Herding Factor	HDF1	0.787	0.724
	HDF2	0.865	0.779
	HDF3	0.847	0.734
	HDF4	0.756	0.615
Representative Bias	RB1	0.655	0.583
	RB2	0.755	0.666
	RB3	0.696	0.675
	RB4	0.708	0.632
Overconfidence Bias	OCB1	0.775	0.685
	OCB2	0.735	0.707
	OCB3	0.685	0.705
	OCB4	0.671	0.678
Prospect Factor	PF1	0.659	0.598
	PF2	0.664	0.522
	PF3	0.742	0.676
	PF4	0.641	0.554
Familiarity Bias	FB1	0.694	0.565
	FB2	0.692	0.647
	FB3	0.657	0.6
	FB4	0.707	0.636

Source: Analysed Result of SPSS 26

Economic Sciences
https://economic-sciences.com
ES (2025) 21(2), 220-236| ISSN:1505-4683

Correlation Analysis

Pearson correlation, which shows a straight line of association between two variables, is used in this research. Table 4.4 displays the Pearson correlation results for all variables, as determined by the correlation analysis. The herding factor is positively correlated with an investment decision (r=0.192), the prospect factor (r=0.465), the familiarity bias (r=0.383), and the overconfidence bias (r=0.533). It showed that the investment decision and performance improved significantly with increased herding, prospect, familiarity, overconfidence, and representative bias.

Table 7. *Correlation Analysis*

Correlations							
		HDF	PF	FB	OCB	RB	ID
HDF	Herding Factor	1					
PF	Prospect Factor	.250**	1				
FB	Familiarity Bias	.360**	.421**	1			
OCB	Overconfidence Bias	.253**	.541**	.435**	1		
RB	Representative Bias	.285**	.420**	.440**	.487**	1	
ID	Investment Decision	.192**	.465**	.383**	.533**	.570**	1
**. Correlation is significant at the 0.01 level (2-tailed).							

Source: Analysed Result of SPSS 26

The correlation results also show that familiarity bias has a positive relationship with the herding factor, the prospect factor, overconfidence bias, and representative bias, each with a value of 0.360, 0.421, 0.435, and 0.440. With 0.253, there is a positive relationship between overconfidence and the herding factor. It goes along with Madaan & Singh (2019) who mentioned that overconfidence leads to a higher herding effect among individual investors while making investment decisions. Individuals with excessive confidence are optimistic and have a tendency to imitate other investors in a healthy macroeconomy, which can lead to the formation of speculative bubbles (Keynes, 1936). On the other hand, most research have demonstrated that the overconfidence effect comes when an investor is too sure of what they think based on private knowledge and won't go along with what everyone else is doing. With 0.487 and 0.285, respectively, representative bias has a moderately positive relationship with overconfidence and the herding factor, which is consistent with (Baker et al., 2018).

Regression & Moderation Analysis

The study aims to find out how different kinds of bias affect investment decisions with the moderating role of gender. The herding factor, the prospect factor, the familiarity bias, the overconfidence bias, and the representative bias were used to predict the investment decision. F (5, 244) = 37.108, p 0.01, shows that the independent variables significantly predict investment decisions. This means that the five factors being studied greatly affect investment decisions. Also, R2 = 0.432 shows that the model explains 43.2% of the variances in investment decisions.

Table 8. *Model Summary of Regression Analysis*

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.657[a]	.432	.420	.96667
a. Predictors: (Constant), RB, HDF, PF, OCB, FB				

Source: Analysed Result of SPSS 26

Table 9. *ANOVA Table of Regression Analysis*

Economic Sciences
https://economic-sciences.com
ES (2025) 21(2), 220-236| ISSN:1505-4683

ANOVA[a]						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	173.378	5	34.676	37.108	.000[b]
	Residual	228.008	244	.934		
	Total	401.386	249			
a. Dependent Variable: ID						
b. Predictors: (Constant), RB, HDF, PF, OCB, FB						

Source: Analysed Result of SPSS 26

Additionally, coefficients were analysed to determine the impact that each component had on the dependent variables (Investment Decision), as well as the moderating variable (Gender). The purpose of the H_{01} study is to determine whether or not the herding factor has a major influence on investing choices. The findings indicate that the herding factor has a considerable influence, in a favourable direction, on the investment choice (coeff = 0.1535, t = 2.9529, p = 0.0035). As a result, H_{01} was not approved. The purpose of the H_{02} study is to determine whether or not gender has a moderating role in the relationship between the herding factor and investment decisions. The analysis revealed that gender did not have a moderating role in the relationship between the herding factor and investment decisions (coeff = 0.343, t = 0.3124, p = 0.7550). As a result, H_{02} was approved.

Table 10. *Moderation Analysis of Herding Factor*

Model				
	coeff	se	t	p
constant	5.3632	0.0796	67.3877	0.0000
HDF	0.1535	0.0520	2.9529	0.0035
Gender	0.1723	0.1636	1.0533	0.2932
Int_1	0.343	0.1098	0.3124	0.7550

Source: Analysed Result of SPSS 26

H_{03} says that overconfidence doesn't have a significant effect on the decision to invest. The result shows that overconfidence has a significant and positive effect on the decision to invest (coefficient = 0.5406, t = 10.0620, p = 0.0000). So, the H_{03} was rejected. H_{04} finds that gender does not moderate between the overconfidence bias and investment decision. The result shows that gender does not moderate between overconfidence and investment decisions (coeff. = 0.0336, t = 0.3014, p = 0.7634). So, H_{04} was accepted.

Table 11. *Moderation Analysis of Overconfidence*

Model				
	coeff	se	t	p
constant	5.3671	0.0678	79.1296	0.0000
OCB	0.5406	0.0537	10.0620	0.0000
Gender	0.3002	0.1392	2.1559	0.0321
Int_1	0.0336	0.1114	0.3014	0.7634

Source: Analysed Result of SPSS 26

According to H_{05}, the prospect factor does not have a major role in the choice to invest. Overconfidence, as measured by this analysis (coeff. = 0.5018, t = 8.3950, p = 0.0000), was found to have a positive and significant effect on investment choice. Therefore, H_{05} was dismissed. Investing decisions are not influenced by gender, according to H_{06}. Coeff. = -0.1116, t = -0.9166, p = 0.3602 indicates

Economic Sciences
https://economic-sciences.com
ES (2025) 21(2), 220-236| ISSN:1505-4683

that gender does not moderate the relationship between the prospect factor and the investment choice. The H_{06} was therefore approved.

Table 12. *Moderation Analysis of Prospect Factor*

Model					
		coeff	se	t	p
constant		5.3637	0.0709	75.5989	0.0000
PF		0.5018	0.0598	8.3950	0.0000
Gender		0.2687	0.1456	1.8452	0.0662
Int_1		-0.1116	0.1218	-0.9166	0.3602

Source: Analysed Result of SPSS 26

H_{07} says that familiarity bias does not impact investment decisions. The result rejected the H_{07} and inferencing that familiarity bias positively impacts retail investors while taking investment decisions (coeff. = 0.3894, t = 6.1527, p = 0.0000). While analysing the H_{08}, the result inference that the gender does not moderate between the familiarity bias and investment decision (coeff = -0.0965, t = -0.7126, p = 0.4768). Hence, H_{08} was approved.

Table 13*. Moderation Analysis of Familiarity Bias*

Model				
	Coeff	se	t	p
Constant	5.3726	0.0750	71.5921	0.0000
FB	0.3894	0.0633	6.1527	0.0000
Gender	0.1214	0.1543	0.7867	0.4322
Int_1	-0.0965	0.1354	-0.7126	0.4768

Source: Analysed Result of SPSS 26

H_{09} states that representative bias does not affect retail investors while taking investment decisions. The result inference that retail investor gets positively affected by the representative bias while taking investment decisions (Coeff. = 0.5895, t = 10.7486, p = 0.0000). Hence, H_{09} got rejected. While analysing H_{010}, this hypothesis is accepted as the result inference that gender does not play a moderator while taking investment decisions by the retail investors between the representative bias and investment decision (Coeff. = 0.1215, t = 1.0964, p = 0.2740).

Table 14. *Moderation Analysis of Representative Bias*

Model				
	Coeff	se	t	p
constant	5.3619	0.0662	81.0192	0.0000
RB	0.5895	0.0548	10.7486	0.0000
Gender	0.1407	0.1359	1.0353	0.3015
Int_1	0.1215	0.1108	1.0964	0.2740

Source: Analysed Result of SPSS 26

CONCLUSION

Contribution of the Study

In conventional finance, biases were regarded as deficiencies in individuals' decision-making capabilities, as they hindered optimal choices for personal well-being. This study endorses the notion that investor biases are not invariably errors requiring correction. Rather, they constitute an integral aspect of an individual's character and significantly influence decision-making, necessitating a deeper comprehension. The study

adds to the theory of behavioural finance by helping us learn more about how the biases of individual investors affect how they choose to invest, and how gender plays a role in that. So, it shows how important investor biases are when making financial decisions. To be more precise, the study finds that

- There are significant positive associations between the herding factor, overconfidence, representative bias, prospect factor, and familiarity bias.
- There is no gender difference in the associations between the herd mentality, overconfidence, representative bias, prospect bias, or familiarity bias and the choice to invest.

The findings indicate that due to uncertainty and the volume of information underlying financial decisions, individual investors exhibit inherent tendencies that may appear erroneous when contrasted with the decisions of a Homo economicus. Therefore, these habits that have formed over time in the individual's mind help the individual make sense of his or her decisions and aid in the achievement of the satisficing behaviour, even though it might not be appropriate from the perspective of the rational man or woman.

Limitations and Directions for Future Study

This study opens the door for additional research opportunities in the field of behavioural finance and helps pave the way for new avenues to investigate. The study also has some limitations which can be used as a prospect for future research. The following are some examples of these:

1. The composition of respondents contains the majority of students (63%), further research can be conducted on other groups.
2. The study considers only 5 behavioural biases. There is an opportunity to look into other biases investors have and how they affect, how they make financial decisions.
3. Modeling the cognitive biases, financial decisions, and actual performance of investors from a theoretical perspective.
4. This study's findings may be replicated in other socioeconomic groups.

REFERENCES

1. Ahmad, F. (2020). Personality traits as predictor of cognitive biases: moderating role of risk-attitude. *Qualitative Research in Financial Markets*, *12*(4), 465–484. https://doi.org/10.1108/QRFM-10-2019-0123
2. Ahmad, M., & Shah, S. Z. A. (2020). Overconfidence heuristic-driven bias in investment decision-making and performance: mediating effects of risk perception and moderating effects of financial literacy. *Journal of Economic and Administrative Sciences*, *38*(1), 60–90. https://doi.org/10.1108/jeas-07-2020-0116
3. Ajmal, S., Mufti, M., & Ali Shah, Z. (2011). Impact of Illusion of Control on Perceived Efficiency in Pakistani Financial Markets. *Abasyn Journal of Social Sciences*, *5*(2), 100.
4. Aren, S., Aydemir, S. D., & Şehitoğlu, Y. (2016). Behavioral biases on institutional investors: a literature review. In *Kybernetes* (Vol. 45, Issue 10, pp. 1668–1684). Emerald Group Publishing Ltd. https://doi.org/10.1108/K-08-2015-0203
5. Arti, G., & Sunita, S. (2011). Difference in Gender Attitude in Investment Decision Making in India. In *Research Journal of Finance and Accounting www.iiste.org ISSN* (Vol. 2). Online. www.iiste.org
6. Asad, H., Khan, A., Faiz, R., & Khan And, A. (2018). BEHAVIORAL BIASES ACROSS THE STOCK MARKET INVESTORS: EVIDENCE FROM PAKISTAN. *Pakistan Economic and Social Review*, *56*(1), 185–209. https://doi.org/10.2307/26616737
7. Bajtelsmit, V. L., & Vanderhei, J. L. (1995). *Risk Aversion and Pension Investment Choices*. https://repository.upenn.edu/prc_papers/580
8. Baker, H. K., Kumar, S., Goyal, N., & Gaur, V. (2018). How financial literacy and demographic variables relate to behavioral biases. *Managerial Finance*, *45*(1), 124–146. https://doi.org/10.1108/MF-01-2018-0003
9. Baker, M., & Wurgler, J. (2007). Investor Sentiment in the Stock Market. In *Journal of Economic Perspectives* (Vol. 21).
10. Bashir, T., Bashir, T., & Maimona Maqsood, S. (2013). Impact of Behavioral Biases on Investors Decision Making: Male Vs Female. *IOSR Journal of Business and Management (IOSR-JBM)*, *10*(3), 60–68. www.iosrjournals.org
11. Bennett, E., Selvam, M., Vivek, N., & Shalin, E. E. (2012). The impact of investors' sentiment on the equity market: Evidence from Indian stock market. *AFRICAN*

JOURNAL OF BUSINESS MANAGEMENT, *6*(32), 9317–9325. https://doi.org/10.5897/ajbm11.588
12. Bhushan, P., & Medury, Y. (2013). Asian Research Consortium Gender Differences in Investment Behaviour among Employees. *Asian Journal of Research in Business Economics and Management*, *3*(12), 147–157. www.aijsh.org
13. Bondt, Werner., & Thaler, R. H. (1995). Financial Decision Making in Markets and Firms: A Behavioural Perspective. *Handbooks in Operations Research and Management Science, North Holland, Amsterdam*, *9*, 385–410.
14. Bryman, A., & Bell, E. (2011). *Business Research Methods* (3rd ed.). Oxford University Press.
15. Budhiraja, K., Raman, T. V., & Bhardwaj, G. N. (2018). IMPACT OF BEHAVIORAL FINANCE IN INVESTMENT DECISION MAKING. *International Journal of Civil Engineering and Technology (IJCIET)*, *9*(6), 1151–1157. http://iaeme.comhttp://iaeme.com
16. Caparrelli, F., Maria D'arcangelis, A., & Cassuto, A. (2004). *Herding in the Italian Stock Market: A Case of Behavioral Finance*.
17. Chavali, K., & Mohanraj, M. P. (2016). Impact of Demographic Variables and Risk Tolerance on Investment Decisions-An Empirical Analysis. *International Journal of Economics and Financial Issues* |, *6*(1), 169–175. http:www.econjournals.com
18. Chen, L., Lesmond, D. A., & Wei, J. (2007). Corporate yield spreads and bond liquidity. *Journal of Finance*, *62*(1), 119–149. https://doi.org/10.1111/j.1540-6261.2007.01203.x
19. Chhabra, R., & De, S. (2012). Are Out-of-Pocket Costs Overweighted Relative to Opportunity Costs? A Disposition Effect-Based Investigation. *SSRN Electronic Journal*, *44*, 0–51.
20. Chun, W. W., & Ming, L. M. (2009). Investor behavior and decision-making style: a Malaysian perspective. *Banker's Journal Malaysia*, *133*, 3-13.
21. Cortina, J. M. (1993). What Is Coefficient Alpha? An Examination of Theory and Applications. *Journal of Applied Psychology*, *78*(1), 98–104.
22. De Bondt, W. F. M. (1998). A Portrait of the Individual Investor. *European Economic Review*, *42*, 831–844. https://fac.comtech.depaul.edu/wdebondt/Publications/A_portrait.pdf
23. De Bortoli, D., Da Costa, N., Goulart, M., & Campara, J. (2019). Personality traits and investor profile analysis: A behavioral finance study. *PLoS ONE*, *14*(3). https://doi.org/10.1371/journal.pone.0214062
24. Dervishaj, M. B. (n.d.). *Psychological Biases, Main Factors of Financial Behaviour-A Literature Review*. *2*(2).
25. Dittrich, D. A. V., Güth, W., & MacIejovsky, B. (2001). Overconfidence in investment decisions: An experimental approach. *European Journal of Finance*, *11*(6), 471–491. https://doi.org/10.1080/13518470420002556 43
26. Durand, R. B., Fung, L., & Limkriangkrai, M. (2019). Myopic Loss Aversion, Personality, and Gender. *Journal of Behavioral Finance*, *20*(3), 339–353. https://doi.org/10.1080/15427560.2018.1511 562
27. Durand, R. B., Newby, R., & Sanghani, J. (2008). An Intimate Portrait of the Individual Investor. *Journal of Behavioral Finance*, *9*(4), 193–208. https://doi.org/10.1080/15427560802341020
28. Durand, R., Newby, R., Tant, K., & Trepongkaruna, S. (2013). Overconfidence, overreaction and personality. *Review of Behavioral Finance*, *5*(2), 104–133. https://doi.org/10.1108/RBF-07-2012-0011
29. Fama, E. F. (1970). Efficient Capital Markets: A Review of Theory and Empirical Work. *The Journal of Finance*, *25*(2), 383–417.
30. Felton, J., Gibson, B., & Sanbonmatsu, D. M. (2003). Preference for Risk in Investing as a Function of Trait Optimism and Gender. *Journal of Behavioral Finance*, *4*(1), 33–40. https://doi.org/10.1207/s15327760jpfm0401_ 05
31. Gavrilakis, N., & Floros, C. (2022). The impact of heuristic and herding biases on portfolio construction and performance: the case of Greece. *Review of Behavioral Finance*, *14*(3), 436–462. https://doi.org/10.1108/RBF-11-2020-0295
32. Gill, A., & Biger, N. (2009). Gender differences and factors that affect stock investment decision of Western Canadian investors. *International Journal of Behavioural Accounting and Finance*, *1*(2), 135. https://doi.org/10.1504/ijbaf.2009.027449

33. Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2009). *Multivariate Data Analysis* (7th ed.). Pearson.
34. Hinz, R. P., McCarthy, D. D., & Turner, J. A. (1996). *Are Women Conservative Investors? Gender Differences in Participant-Directed Pension Investments* (Vol. 578). https://repository.upenn.edu/prc_papers/578
35. Hulin, C., Netemeyer, R., & Cudeck, R. (2001). Can a Reliability Coefficient Be Too High? *Methodological and Statistical Concerns of the Experimental Behavioral Researcher*, *10*(1), 55–58. http://www.jstor.orgStableURL:http://www.jstor.org/stable/1480474
36. Jaiswal, B., & Kamil, N. (2012). Gender, Behavioral Finance and the Investment Decision. *Business Review*, *7*(2), 8–22.
37. Jamil, S. A., & Khan, K. (2016). Does Gender Difference Impact Investment Decisions? Evidence from Oman. *International Journal of Economics and Financial Issues*, *6*(2), 456–460. http:www.econjournals.com
38. Jawaheer, M., Jawaheer, B. M., & Manual, V. S. (2016). The impact of emotional intelligence on psychological ownership among employees of the public sector View project Gender Differences in Investment Decision Making Among the Working Class of Mauritius. *Imperial Journal of Interdisciplinary Research (IJIR)*, *2*(9).
39. Kahneman, D., & Tversky, A. (1979). Prospect Theory: An Analysis of Decision under Risk. *Econometrica*, *47*(2), 263–292. https://about.jstor.org/terms
40. 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. https://doi.org/10.5539/ijef.v11n8p80
41. Keynes, J. M. (1936). *The General Theory of Employment, Interest, and Money*.
42. Kumar, S., & Goyal, N. (2015). Behavioural biases in investment decision making – a systematic literature review. *Qualitative Research in Financial Markets*, *7*(1), 88–108. https://doi.org/10.1108/QRFM-07-2014-0022
43. Lascu, D. N., Babb, H. W., & Phillips, R. W. (1997). Gender and investment: The influence of gender on investment preferences and practices. *Managerial Finance*, *23*(10), 69–83. https://doi.org/10.1108/eb018652
44. Lin, H.-W. (2011). Elucidating rational investment decisions and behavioral biases: Evidence from the Taiwanese stock market. *African Journal of Business Management*, *5*(5), 1630–1641. https://doi.org/10.5897/AJBM10.474
45. Madaan, G., & Singh, S. (2019). An analysis of behavioral biases in investment decision-making. *International Journal of Financial Research*, *10*(4), 55–67. https://doi.org/10.5430/ijfr.v10n4p55
46. Markowitz, H. (1952). PORTFOLIO SELECTION·. *The Journal of Finance*, *7*(1), 77–91.
47. MERTON, R. C. (1987). A Simple Model of Capital Market Equilibrium with Incomplete Information. *The Journal of Finance*, *42*(3), 483–510. https://doi.org/10.1111/j.1540-6261.1987.tb04565.x
48. Odean, T. (1998a). Are investors reluctant to realize their losses? *Journal of Finance*, *53*(5), 1775–1798. https://doi.org/10.1111/0022-1082.00072
49. Odean, T. (1998b). Volume, Volatility, Price, and Profit When All Traders Are Above Average. *The Journal of Finance*, *53*(6), 1887–1934.
50. Rahman, M., & Gan, S. S. (2020). Generation Y investment decision: an analysis using behavioural factors. *Managerial Finance*, *46*(8), 1023–1041. https://doi.org/10.1108/MF-10-2018-0534
51. Ritter, J. R. (2003). Behavioral finance. *Pacific Basin Finance Journal*, *11*(4), 429–437. https://doi.org/10.1016/S0927-538X(03)00048-9
52. Sekaran, U., & Bougie, R. (2016). *Research Methods for Business* (7th ed.). Wiley. www.wileypluslearningspace.com
53. Shah, S. Z. A., Ahmad, M., & Mahmood, F. (2018). Heuristic biases in investment decision-making and perceived market efficiency: A survey at the Pakistan stock exchange. *Qualitative Research in Financial Markets*, *10*(1), 85–110. https://doi.org/10.1108/QRFM-04-2017-0033
54. Sharma, M., & Kota, H. B. (2019). The Role of Working Women in Investment Decision Making in the Family in India. *Australasian Accounting, Business and Finance Journal*, *13*(3), 91–110. www.assetmark.com,
55. Sharpe, W. F. (1964). CAPITAL ASSET PRICES: A THEORY OF MARKET EQUILIBRIUM UNDER CONDITIONS OF RISK. *The Journal of Finance*, *19*(3), 425–442. https://doi.org/10.1111/j.1540-6261.1964.tb02865.x

56. Shiller, R. J. (1997). Human Behavior and the Efficiency of the Financial System. *Handbook of Macroeconomics, Elsevier, Amsterdam*, *1C*, 1305–1340.
57. Statman, M. (2014). Behavioral finance: Finance with normal people. *Borsa Istanbul Review*, *14*(2), 65–73. https://doi.org/10.1016/j.bir.2014.03.001
58. Tan, L., Chiang, T. C., Mason, J. R., & Nelling, E. (2008). Herding behavior in Chinese stock markets: An examination of A and B shares. *Pacific Basin Finance Journal*, *16*(1–2), 61–77. https://doi.org/10.1016/j.pacfin.2007.04.004
59. Tversky, A., & Kahneman, D. (1974). Judgment under Uncertainty: Heuristics and Biases. In *New Series* (Vol. 185, Issue 4157).
60. Tversky, A., & Kahneman, D. (1992). Advances in Prospect Theory: Cumulative Representation of Uncertainty. In *Journal of Risk and Uncertainty* (Vol. 5).
61. Ursachi, G., Horodnic, I. A., & Zait, A. (2015). How Reliable are Measurement Scales? External Factors with Indirect Influence on Reliability Estimators. *Procedia Economics and Finance*, *20*, 679–686. https://doi.org/10.1016/s2212-5671(15)00123-9
62. Zahera, S. A., & Bansal, R. (2018). Do investors exhibit behavioral biases in investment decision making? A systematic review. In *Qualitative Research in Financial Markets* (Vol. 10, Issue 2, pp. 210–251). Emerald Group Publishing Ltd. https://doi.org/10.1108/QRFM-04-2017-0028
63. Zeb, N., Professor, A., Iqbal, Z., Ammad Zeb, A., & Maroof Khan, M. (2020). Impact of Personality Traits on Investment Decision with Moderating Role of Financial Literacy. *Elementary Education Online*, *19*(3), 2730–2737. https://doi.org/10.17051/ilkonline.2020.03.735432