

# Study of Behavioural Biases and its impact on investment decisions: A Structured Review of Literature

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**Abstract:** Today, behavioural finance is not a new concept. The existence and impact of behavioural biases in investor's behaviour and human judgment are huge. Hence, the agenda of this paper is to study and describe various behavioural biases in investment decision-making with the help of the review of research articles, publications, and papers in the aforesaid field. For composing this paper, different research papers have been gathered over a time of year's privilege from when the most starting paper was distributed (1979) till the latest papers (2020). It discusses as to how it has progressed over the years to make behavioural finance an established and specific area of study. All these articles are segregated into biases wise, year-wise, and author wise. The study is more inclined toward the study of individual and institutional investors and has identified majorly 4 types of biases which are usually seen among our peers. Practical implication of the research covers companies, policymakers and issuers of securities so that they can watch out of investors' interest before issuing securities into the market. However, it can also help investors to recognize several behavioural biases, take sound investment decisions and can also minimize their risk. This type of study will also help research scholars for their further exploration. This paper does not only focus on the basic principles of behavioural finance but also explain some emerging concepts and theories of behavioural finance. Thus, the paper generates interest in the readers to find the solutions for minimizing the effect of biases in decision-making.

**Key Words:** Overconfidence, Financial markets, Disposition effect, Behavioural finance, Behavioural biases, Investment decisions.

## 1. INTRODUCTION:

*People in standard finance are rational. People in behavioral finance are normal.*

—Meir Statman, Ph.D., Santa Clara University

Behavioral finance, commonly defined as the application of psychology to finance, has become a very hot topic, generating new credence with the rupture of the tech-stock bubble in March of 2000. The similar kind of evidence will be experienced in pandemic nCovid-19 also. While the term *behavioral finance* is bandied about in books, magazine articles, and investment papers, many people lack a firm understanding of the concepts behind behavioral finance. Additional confusion may arise from a proliferation of topics resembling behavioral finance, at least in name, including behavioral science, investor psychology, cognitive psychology, behavioral economics, experimental economics, and cognitive science. Furthermore, many investor psychology books that have entered the market recently refer to various aspects of behavioral finance and even lots of research being conducted past 20 years. However, in India, this concept is gaining increasing trend from researchers' exploration perspective.

Modern Portfolio Theory (MPT) and the Efficient Market Hypothesis (EMH), which justify standard finance, are successful. But in the financial markets, we often observe some puzzles and anomalies which cannot be explained rationally by standard finance theories; it can be only explained through behavioral finance theories. So the alternative approach of behavioral finance includes role of psychological factors while investing in financial markets. Behavioral finance is a relatively new concept in the financial markets which replaces traditional finance models, and it offers a better model for explaining investors' behavior in financial markets. It also explains how individual investors make decision in financial markets how they interpret and act on specific information.

## 2. LITERATURE REVIEW:

**Kahneman and Tversky (1979)** wrote a paper titled "Prospect theory: An analysis of decision under risk". This paper has been proved as valuable contribution in the field of behavioral finance as the fundamental concept of prospect theory

was introduced. This theory explains decision making process of investors based on the probabilistic alternatives involving risk when the probable outcome of investment decision is known.

**Thaler (1980)** explained that investors make decisions under the influence of behavioral biases often leading to less than optimal decisions.

**Thaler (1999)** explained in his paper, “The End of Behavioral Finance”, that there are many puzzles in financial markets where theories of modern finance give no answer and here the assumptions of behavioral finance are helpful in solving these puzzles. He has explained five areas where the behavior of the investors in the stock market differs from what have been proposed by the traditional and standard finance theories. These are dividends, predictability and equity premium, volume, volatility.

**Ricciardi and Simon (2000)** defined behavioral finance as a way of understanding psychological processes and emotional factors of investors in financial markets. Behavioral finance scholars and investment professionals are actively working for evolving this field.

Following are the various other Literature review as to how behavioural biases impact investment decisions of investors:

Author Name and Year	Findings of the research
Gupta et. al (2001)	Examined and compared the pattern of investor’s preferences among mutual fund organizations/schemes and other financial products using 312 household investors. The study found that Mutual fund scheme UTI owned US 64 was the most popular but its position with regard to equity schemes was weaker than others.
Kiran, D., & Rao, U. S. (2004).	Identified the investor group segment on the basis of demographic and psychographic characteristics of the individual from 96 respondents using Multinomial logistic regression and factor analysis.
Wood, R. & Zaichkowsky, Lynne Z. (2004)	Identified and characterize individual investor into a segment based on their investing attitude and behaviour using the sample of 90 respondents. The study concluded that tolerant traders, confident traders, loss adverse trader, and conservative long-term trader were identified.
Zoghami and Matoussi (2009)	Identified the psychological factor that influences the investor’s behavior in Tunisia using the sample of 92 brokers. The study concluded that Precaution, under confidence, conservatism, under optimism and informational inferiority complex is the factor that impacts on the behavior of inventors.
Mamta (2014),	Investigated the presence and analyze the impact of Heuristic Driven and Frame Dependent biases on different Stock market indicators and to find out which bias is most pronounced in the Indian context using Secondary data, a sample of different market indicators of Nifty 50 stocks, for a Period 2006-2013. The study found that overconfidence and the disposition biases increase the market and individual security transaction Volume respectively.
Mounika (2017)	Studied the relevance of behavioral finance in investment decisions using behavioral biases impact on investors. The study concluded that investors do not always act in rational and behavioral biases have an impact on investor’s decision making.
Kapoor & Prosad (2017)	Explained that investors are influenced by psychological biases and these biases can get translated in to their irrational investment behavior and again it will lead to suboptimal decision
Valaskova et al (2019)	Determined a strong link between fuzzy logic and behavioral finance. He examined that Fuzzy sets can accurately model the human decision-making process and Behavioral psychology has proved that the fuzzy logic model of human decision-making has strong validity in the real world.
Atif Sattar, Toseef, & Fahad Sattar (2020)	Findings revealed that there was an effect of behavioral biases on investment decisions. Empirical results concluded investment decision making influenced by heuristic behaviours more than prospects and personality characteristics.

There are several biases that influence decision-making process of investors incorporates loss aversion, herding behaviour, overconfidence, representativeness etc. This paper reviews four biases on the basis of literature review. Maximum researchers have mentioned above mentioned biases in their studies.

## 2.1 REVIEW OF LITERATURE ON BEHAVIOURAL BIASES

### 1) Name of Bias - OVERCONFIDENCE

**Bias Type** – Cognitive

**Category** – Heuristic driven

*Too many people overvalue what they are not and undervalue what they are.*

— Malcolm S. Forbes

Overconfidence is probably one of the most researched bias. It is defined as the investors' tendency to overestimate the precision of their knowledge or valuation abilities, in the sense that they rely on their own private signals and ignore public signals.

**Daniel, Hirshleifer et. al (1998)** overconfidence implies negative long-lag autocorrelations, excess volatility, and, when managerial actions are correlated with stock mispricing, public-event-based return predictability. So they develop a model based on overconfidence of investors who overestimate the precision of their private signals and concludes that the overconfidence leads to negative serial correlation in prices (price reversals).

**Odean, (1998)** People are overconfident and it affects financial markets. Overconfident traders can cause markets to underreact to the information of rational traders and may overreact to salient, anecdotal, less relevant information. So he defines overconfidence as the investors' tendency to overestimate the precision of their knowledge about the value of a security.

**Terrance Odean, (2001)** Men are more overconfident than women and hence former trades excessively than later.

**Wen-I Chuang, (2006)** they analyses overconfidence hypothesis by the following four testable implications: First, if investors are overconfident, they overreact to private information and underreact to public information. Second, market gains make overconfident investors trade more aggressively in subsequent periods. Third, excessive trading of overconfident investors in securities markets contributes to the observed excessive volatility. Fourth, overconfident investors underestimate risk and trade more in riskier securities. To document the presence of overconfidence in financial markets, they empirically evaluated these four hypotheses using aggregate data. Overall, findings of empirical evidence were in support of these four hypotheses.

**Rauli Susmel, (2011)** Guided by the Gervais and Odean (2001) overconfident trading hypothesis, they comprehensively investigate the trading behavior of individual vs. institutional investors in Taiwan in an attempt to identify who is the more overconfident trader. Findings say that individual investors trade more aggressively following market gains in the three conditional states of the market and in high-volatility market states than institutional investors. Also, individual investors trade more in relatively riskier securities following gains than institutional investors. These findings provide evidence that individual investors are more overconfident traders than institutional investors.

**Gupta, Goyal, Kalakbandi, & basu, (2018)** they presented evidence in favour of the overconfidence bias and its persistence in pre-, during- and post-global recession sub-samples in China and India. Excessive trading which follows market returns is posited as the overconfidence and sustains for the longer duration in the Chinese and Indian markets compared to previous researchers who have focused mainly on developed markets. The Chinese investors are found to be more overconfident than the Indian investors in each subsample. They explored that the Chinese and Indian investors are more overconfident in up than down market states in each sub-sample

**(Kansal & Singh, 2018)** The four constituents of overconfidence considered for the study are “better than average effect,” “planning fallacy,” “self-attribution” and “positive illusion.” The results show that those who earn high, have more dependents, share the earning responsibility, have high investment frequency, less time horizon and more investment experience and invest in large cap stocks are more subject to the overconfidence. The study also concludes that gender, age and general education do not affect the level of overconfidence.

Following is the research timeline for this bias:

<b>Name of Author</b>	<b>Findings</b>
<b>Nevins, D. (2004)</b>	Defined Overconfidence as overestimation of their capacity by investors to forecast market events, and as final result investors regularly go out on a limb without getting similar returns
<b>Statman et al. (2006)</b>	Discussed that some investors feel overconfident about the value of active trading after they get positive portfolio returns, and feel less overconfident after they get negative portfolio returns.
<b>Fagerström (2008)</b>	Performed a study to analyse overconfidence in financial markets and factors that affect human beings in decision making when it comes to investment in financial markets. This research concluded that analysts of the S&P 500 were influenced with over confidence bias and the over optimistic biases.
<b>Puetz A. Et al. (2011)</b>	Examined that fund managers generally trade more after good past performance of mutual funds
<b>Menkhoff et al. (2013)</b>	Examined that there is a significant differences in overconfidence between groups, it has been found that institutional investors were least overconfident and investment advisors were most overconfident.
<b>Jaya, M.P. (2014)</b>	Analysed that men are more overconfident. And in case of the intraday traders; traders with high practice and investor of latest companies are affected by overconfidence bias
<b>Khan Y. et al. (2017)</b>	Found that overconfidence has great and positive impact on investors’ return.
<b>Kurniawati D. et al.(2019)</b>	Examined that overconfidence bias and self-control bias have a great positive effect on investment decisions made by investors during investing in IPO
<b>Baker H. et al. (2019)</b>	Found that financial literacy is not related to overconfidence bias.

**Tanmay Bansal (May 2020)** explored such phenomena from a behavioral finance lens and discuss some cognitive errors and biases relevant during and after the crisis - overconfidence (miscalibration, better-than-average effect, illusion of control, optimism bias) This cognitive bias is glaringly reflected in the GDP growth projections across the globe as the pandemic became more widespread. Specifically, in the case of India, GDP growth projections for 2020 were miscalibrated as much higher than the actual likely figure even as investors witnessed the crisis unfold in other developing and developed nations

Also, this illusion of control is prevalent in firm reactions to the current crisis as well. In a study of corporate firms during the first quarter of 2020 reveals a negative market reaction. This suggests that the market underestimated the impact of the COVID-19 outbreak on the firms

**2) Name of Bias – Herding**

**Bias Type** – amalgamation of cognitive and heuristic

**Category** – Heuristic driven/other

*If everyone is thinking alike, then somebody isn't thinking.*

— George S. Patton

It is the tendency of investors to follow the crowd without considering their own judgement. Most of the existing studies on herd behavior in stock markets focus on the developed economies of Europe and USA. However, there has been seen emerging trend in research of herd behavior in Asian economies, especially Indian stock market. The researchers across the globe have observed herding patterns that are not uniform and there have been mixed observations.

**Scharfstein and Stein (1990)** examined some of the factors that could lead to herd behavior in investment decisions of money managers. They developed a model which segregated intellectual managers from biased (dumb) managers. Intellectual managers were those who received informative signals about the value of an investment, whereas the biased (dumb) managers received purely noise signals. They identified that reputational concerns and ‘sharing-the-blame’ effect, were some of the factors that could drive managers to herd.



**Lakonishok et al. (1992)** they studied the role of herding and positive feedback trading in destabilizing the stock prices. According to them, herding referred to mimicking the investment actions of other fund managers at same point of time; while positive feedback trading referred to buying winners and selling losers. The data set used in their study comprised of quarterly portfolio holdings of 769 all-equity pension funds from year 1985 to 1989. They developed a model which measured herding by studying a subset of market participants overtime. However, they did not find any substantial evidence of herding or positive feedback trading by pension fund managers except in small stocks.

**Christie and Huang (1995)** introduced a statistical tool to identify herding behavior in the market. They used cross sectional standard deviation (CSSD) as a measure of average proximity of individual asset returns to the realized market average. They analysed that market alternates between normal and extreme phases and that herding exists in periods of market extremes. They argued that when investors follow aggregate market movement, disregarding their own judgment (herding) then individual asset returns will not diverge much from overall market return. Therefore value of CSSD gets reduced. Also argue that investors are more likely to suppress their private beliefs in favour of consensus during periods of unusual market movement

**Hwang and Salmon (2001)** developed a measure to test herding in US, UK, and South Korean stock markets. They evaluated the direction towards which the market may be herding. Their measure took into account the fundamentals of the firms and influence of time series volatility. With this they could differentiate intentional herding from spurious herding. Contrary to Christie and Huang (1995) they found herding in normal market conditions rather than market stress.

**Caparelli et al. (2004)** investigated the presence of herding in Italian stock market. They found nonlinearity in herding pattern using methodology given by Chang et al. They also determined degree of herding (H statistics) to differentiate between spurious and intentional herding. Formula for (H statistics) was given by Hwang and Salmon (2001). Intentional herding was indicated by a decreasing (H statistics) and was found to be greater in Bull Phases and in small-cap companies of Italian stock market.

Following is the research timeline for this bias:

Name of Author	Findings
<b>Kim, K.A., Nofsinger, J.R., (2005)</b>	They found a high price effect of institutional herding in the Japanese stock market.
<b>Demirer, R., &amp; Kutan, A.M. (2006)</b>	Analysed that small capitalization stocks, large number of retail investors in non-financial sectors are more likely to herd.
<b>Guo and Shih (2008)</b>	Studied the herding pattern in high tech stocks in Taiwan and conclude that more significant evidence of return dispersion in high-tech industries than in traditional industries.
<b>Fu and Lin (2010)</b>	Concludes that the asymmetric reactions exist. Investors' tendency toward herding is saliently higher during market downstream
<b>Javed, T., Zafar, N., Hafeez, B. (2013)</b>	Studied the KSE 100 index of Karachi using monthly data and fail to find any evidence of herding
<b>Cakan and Balagoyozyan (2015)</b>	Studied the Turkish stock exchange from 2002 to 2014 and find significant herding in all sectors namely finance, technology and services in highly volatile markets
<b>Choi S. (2016)</b>	Examined stronger herding behaviour among offline investors comparing to online investors. Generally old age offline investors have more trust on information provided by their friends and family members because they are not having fast and easy access for information.
<b>Dewan, P., &amp; Dharni, K. (2019)</b>	Explained herding as how individuals follow each other together in a group and dotcom bubble was result of herding bias and even same thing is happening in crypto currency.

**Muhammad Yasir (2020)** employed a dynamic herding approach that takes herding under different market regimes into account. They used daily data on US stock returns for the S&P 500 ranging from 2006 to 2017. The results of the linear model yield no evidence of herding. However, the findings of switching regression of Bai and Perron (1998)

demonstrate evidence of herding during crisis regimes of S&P 500. The alternative approach of Markov switching also supports these findings.

**3) Name of Bias – REPRESENTATIVE BIAS**

**Bias Type** – Cognitive  
**Category** – Heuristic driven

*Fit no stereotypes. Don't chase the latest management fads. The situation dictates which approach best accomplishes the team's mission.*

—Colin Powell

It is the tendency of individuals to forecast the outcome of an investment by referring to a previous investment outcome that already exist in their minds. This leads them to arrive at a result too quickly with imprecise information.

Two primary interpretations of *representativeness bias* apply to individual investors.

- 1) Base rate neglect, and
- 2) Sample size neglect

Following is the research timeline for this bias:

<b>Name of Author</b>	<b>Findings</b>
<b>Ritter, J. R. (2003)</b>	Defined representativeness bias as that people generally underweight long-term averages returns. And tend to give more weight to recent experience and returns.
<b>Shefrin, H. (2008)</b>	Explained that it is a mental shortcut can be defined as over trust on stereotypes
<b>Pompian, M. M. (2017)</b>	Explained that representativeness bias generally occurs due to imperfect emotional framework when processing new information. To make new information easier to process, some investors project outcomes that reverberate with their own pre-existing ideas and decision making.
<b>Shah et al. (2018)</b>	Explained that representativeness bias have significant negative impact on investment decisions made by investors frequently trading on the PSX and on perceived market efficiency.

**4) Name of Bias – LOSS AVERSION**

**Bias Type** – Emotional  
**Category** – Frame dependent

*Win as if you were used to it, lose as if you enjoyed it for a change.*

—Ralph Waldo Emerson

It refers to the tendency of individuals to avoid losses strongly as compared to gains. This is because loss brings regret and the impact is much greater than that of gains. This concept was introduced by Kahneman and Tversky (1979).

Loss aversion bias, observed in practice as the *disposition effect*, is seen often by wealth management practitioners. Investors open up the monthly statements prepared by their advisors, skim columns of numbers, and usually notice both winners and losers. In classic cases of loss aversion, clients dread selling the securities that haven't performed well. Get-even-itis takes hold, and the instinct is to hold onto a losing investment until, at the very least, it rebounds enough for the client to break even. Often, however, research into a losing investment would reveal a company whose prospects don't forecast a rebound. Continuing to hold stock in that company actually adds risk to an investor's portfolio

**Hwang, S., & Satchell, S. E. (2010)** examined that investors in financial markets are highly loss averse than assumed in the literature. It was also analyzed that impact of loss aversion changes depending on financial market situations; investors become far more loss averse during bull markets than during bear markets.

**Arora, M., & Kumari, S. (2015)** examined that Investors with age group 41-55 years show high impact loss aversion bias as compared to individuals with age group 25-40 years and it was also examined that females show more loss aversion and regret more as compared to males.

**Lee, B., & Veld-Merkoulova, Y. (2016)** examined that investors who are highly impacted by loss aversion generally have lower stock investment as a share of total portfolio. Loss averse investors tend to observe their stock portfolio performance too often, which contributes to the prevalence of myopic loss aversion.

**Mahina et al. (2017)** analyzed that loss aversion bias highly affected investment in Rwanda stock market. This study further examined that investors at the stock market tend to be more regretful about holding losing stocks too long than selling winning ones too soon.

**Kumar et al.(2018)** examined that that gender of the investors have high impact on occurrence of loss aversion in investors and so investment decisions made by the investors are impacted by loss aversion bias.

### 3. RESEARCH GAP:

After reviewing many available literature on behavioural finance and behavioural biases, extracted from various journals, it can be inferred that there are some research gaps which need to be taken into consideration and address future studies by conducting research on research gaps like: -

- Mostly studies are conducted in developed countries. Developing country like India still demands lots of research in this field.
- Majority of behavioural finance literature of India analyses very few region of the country. Extensive or same kind of study can be done for different regions as well for better picture.
- Many research in this field can be done using secondary data because lots of research has been done for establishing statistical tool for calculation behavioural impact. Hence, Quantitative behavioural finance is emerging concept.

### 4. CONCLUSION:

From the review of available literature on behavioral finance and behavioral biases it can be concluded that behavioral finance offers psychology-based framework to explain stock market anomalies, such as extreme rises or falls in stock market. Behavioral finance includes psychology, sociology and other research methods for the study of investment behavior of investors in financial markets. This field liberalizes the assumptions of rationality present in standard finance theories and explains that real investors are influenced by their psychological biases. In this study we have reviewed previous research papers and studies on behavioral finance and behavioral biases and most of the studies provide evidences for presence of above mentioned four behavioral biases in investors. Many researchers have found out presence of overconfidence and herd bias among investors. Few researchers also support presence of other two biases among investors. Many researchers have also found out association of behavioral biases with demographic factors like age, gender etc. So over all it can be concluded that a lot of research work has been done in this area in developed countries financial market and there is lot of scope and opportunity in this area in developing countries financial markets.

### REFERENCES:

1. Kahneman & Tversky, A. (1979). "Prospect theory: An analysis of decision under risk." *Econometrica*, 47(2), 363-391.
2. Thaler, R. (1980). "Toward a positive theory of consumer choice". *Journal of Economic Behaviour & Organization*, 1(1), 39-60.
3. Thaler, R. H. (1999). "The end of behavioral finance." *Financial Analysts Journal*, 55(6), 12-17.
4. Ricciardi, V., & Simon, H. K. (2000). "What is behavioral finance?" *Business, Education & Technology Journal*, 2(2), 1-9.
5. Gupta, L. C., & Choudhury, U (2001). *How good are Mutual Funds- the 5th Household Investor Survey?* New Delhi: Conducted By Society for Capital Market Research and Development.
6. Kiran, D., & Rao, U. S. (2004). Identifying Investor Group Segments Based on Demographic and Psychographic Characteristics. <http://ssrn.com/abstract=870749>.
7. Wood, R. & Zaichkowsky, Lynne Z. (2004). Attitudes and Trading Behaviour of Stock Market Investors: A Segmentation Approach. *Journal of Behavioural Finance*. Vol. 5(3), pp. 170-179.
8. Zoghami, F. & Matoussi, H. (2009). A survey of Tunisians Investors' Behavior. *International Research Journal of Finance and Economics*. Vol. 31, pp. 66-82.

9. Mamta (2014). Impact of Investors' Behavioral Biases on the Indian Equity Market and Implications on Stock Selection Decisions: An Empirical Analysis. Synopsis. Jaypee Institute of Information Technology. Noida, India.
10. Mounika (2017). Relevance of Behavioral Finance in Investment Decisions. A project report, university of Hyderabad.
11. Kapoor, S., & Prosad, J. M. (2017). "Behavioral finance: A review". *Procedia computer science*, 122, 50-54.
12. Valaskova, K., Bartosova, V., & Kubala, P. (2019). "Behavioural Aspects of the Financial Decision-Making". *Organizacija*, 52(1), pp. 22-31.
13. Atif Sattar, Toseef, & Fahad Sattar (2020). "Behavioral Finance Biases in Investment Decision Making". *International Journal of Accounting, Finance and Risk Management*. Volume 5, Issue 2, June 2020, Pp: 69-75
14. Shukla, A., Jamal Rushdi, D., & Katiyar, D. C. (2020, April). "IMPACT OF BEHAVIORAL BIASES ON INVESTMENT DECISIONS 'A SYSTEMATIC REVIEW'". *International Journal of Management (IJM)*, 11(4).
15. Atif Sattar, M., Toseef, M., & Fahad Sattar, M. (2020, June). "Behavioral Finance Biases in Investment Decision Making". *International Journal of Accounting, Finance and Risk Management*, 5(2), 69-75.
16. Gupta, S., Goyal, V., Kalakbandi, V., & basu, s. (2018, March). "Overconfidence, Trading Volume and Liquidity Effect in Asia's Giants: Evidence from Pre-, during and Post-Global Recession". Research Article.
17. Kansal, P., & Singh, S. (2018, October). "Determinants of overconfidence bias in Indian stock market". *Qualitative Research in Financial Markets*, 10(3).
18. KENT DANIEL, D. H. (1998, December). Investor Psychology and Security Market. *THE JOURNAL OF FINANCE*.
19. Odean, T. (1998). "Volume, Volatility, price and profit when all traders are above average". *Journal of Finance*, 53(6), 1887-1934.
20. Rauli Susmel, W.-I. C. (2011, July). "Who is the More Overconfident Trader? Individual vs. Institutional Investors". *Journal of Banking & Finance*, 35(7), 1626-1644.
21. Terrance Odean, B. M. (2001, February). "Boys Will Be Boys: Gender, Overconfidence, And Common Stock Investment". *Quarterly Journal of Economics*, 261-292.
22. Wen-I Chuang, J. X. (2006, September). "An Empirical Evaluation of the Overconfidence Hypothesis". *Journal of Banking & Finance*, 30(9), 2489-2515.
23. Nevins, D. (2004). Goals-based investing: Integrating traditional and behavioral finance. *The Journal of Wealth Management*, 6(4), 8-23.
24. Statman, M., Thorley, S., & Vorkink, K. (2006). Investor overconfidence and trading volume. *The Review of Financial Studies*, 19(4), 1531-1565.
25. Fagerström, S. (2008). Behavioural Finance: The psychological impact and Overconfidence in financial markets
26. Puetz, A., & Ruenzi, S. (2011). Overconfidence among professional investors: Evidence from mutual fund managers. *Journal of Business Finance & Accounting*, 38(5-6), 684-712.
27. Menkhoff, L., Schmeling, M., & Schmidt, U. (2013). Overconfidence, experience, and professionalism: An experimental study. *Journal of Economic Behavior & Organization*, 86, 92-101.
28. Jaya, M.P. (2014), Impact of Investors Behavioral Biases on the Indian Equity Market and Implications on Stock Selection Decisions: An Empirical Analysis, A Thesis Submitted to Jaypee Institute of Information Technology.
29. KHAN, Y., BATOOL, D. S., & KHAN, A. W. (2017). Impact of Behavior Biases on Perceived Trading Return.
30. Kurniawati, D., & Sutrisno, S. (2019). The Benchmark Of Investor Decisions To Invest In The Initial Public Offering (IPO). *Riset Akuntansi dan Keuangan Indonesia*, 4(2), 166-176.
31. Baker, H. K., Kumar, S., Goyal, N., & Gaur, V. (2019). How financial literacy and demographic variables relate to behavioral biases. *Managerial Finance*, 45(1), 124-146.
32. Tanmay Bansal (May 2020). "Behavioral finance and COVID-19: Cognitive errors that determine the financial future". Cornell University. [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3595749](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3595749)
33. D. S. Scharfstein and J. C. Stein, "Herd behavior and investment," *American Economic Review* 80, pp. 465-479, 1990.
34. Lakonishok, J., A. Shleifer & R.W. Vishny (1992), "The impact of institutional trading on stock prices", *Journal of Financial Economics*, Vol. 32 No. 1, pp. 23-43.
35. W. G. Christie and R. D. Huang, "Following the Pied-Piper: do individual returns herd around the market?" *Financial Analyst Journal*, pp. 31-37, 1995.



36. S. Hwang and M. Salmon, "A new measure of herding and empirical evidence for the US, UK, and South Korean stock markets," Centre of Economic Policy Research Discussion Paper, Working Paper, 2001.
37. F. Caparrelli, A. D'Arcangelis, and A. Cassuto, "Herding in the Italian stock market: a case of behavioral finance," *Journal of Behavioral Finance*, vol. 5, pp. 222-230, 2004.
38. Kim, K.A., Nofsinger, J.R., (2005), "Institutional herding, business groups and economic regimes: Evidence from Japan", *Journal of Business*, Vol. 78 No. 1, pp. 213-242.
39. Demirer, R., & Kutan, A.M. (2006), "Does herding behavior exist in Chinese stock markets?," *Journal of International Financial Markets, Institutions and Money*, Vol. 16 No. 2, pp. 123–142.
40. Fu, T., & Lin, M. (2010), "Herding in China equity market", *International Journal of Economics and Finance*, Vol. 2 No. 2, pp. 148-156.
41. Javed, T., Zafar, N., Hafeez, B. (2013) "Herding Behavior in Karachi Stock Exchange", *International Journal of Management Sciences and Business Research*, Vol. 2 No. 2, pp. 19-28.
42. Cakan, E., & Balagyozyan, A. (2015), " Sectoral Herding: Evidence from an Emerging Market"
43. Choi, S. (2016). Herding among local individual investors: Evidence from online and offline trading. *Economics Letters*, 144, 4-6.
44. Dewan, P., & Dharni, K. (2019). Herding Behaviour in Investment Decision Making: A Review. *Journal of Economics, Management and Trade*, 1-12.
45. Muhammad Yasir (2020). "DYNAMIC HERDING BEHAVIOUR IN THE US1 STOCK MARKET". <https://pep.vse.cz/corproof.php?tartkey=pep-000000-0866&pdfret=1>
46. KAUR GILL, R., & BAJWA, R. (2018, August). "STUDY ON BEHAVIORAL FINANCE, BEHAVIORAL BIASES, AND INVESTMENT DECISIONS". *International Journal of Accounting and Financial Management Research (IJAFMR)*, 8(3), 1-14.
47. Ritter, J. R. (2003). Behavioral finance. *Pacific-Basin finance journal*, 11(4), 429-437.
48. Shefrin, H. (2008). A behavioral approach to asset pricing. Elsevier.
49. Pompian, M. M. (2017). Risk tolerance and behavioral finance. *Investments and Wealth monitor*, Boston, 20(31), 34-45.
50. Shah, S. Z. A., Ahmad, M., & Mahmood, F. (2018). Heuristic biases in investment decision-making and perceived market efficiency. *Qualitative Research in Financial Markets*. Vol. 10.
51. Syed, A. Z., & Bansal, R. (2018). "Do investors exhibit behavioral biases in investment decision making? A systematic review". *Quality Research in Financial Markets*, 10(2).
52. Arora, M., & Kumari, S. (2015). Risk taking in financial decisions as a function of age, gender: mediating role of loss aversion and regret. *International Journal of Applied Psychology*, 5(4), 83-89.
53. Lee, B., & Veld-Merkoulova, Y. (2016). Myopic loss aversion and stock investments: An empirical study of private investors. *Journal of Banking & Finance*, 70, 235-246.
54. Mahina, J. N., Muturi, W. M., & Memba, F. S. (2017). Influence of Loss Aversion Bias on Investments at the Rwanda Stock Exchange.
55. Kumar, A. A., & Babu, M. (2018). EFFECT OF LOSS AVERSION BIAS ON INVESTMENT DECISION: A STUDY.