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[THE IMPACT OF BEHAVIORAL BIASES ON INVESTMENT DECISION-MAKING: EVIDENCE FROM PAKISTAN]

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ABSTRACT

In the context of Pakistan, personal speculator behaviour is altogether affected by different psychological biases, as emphasized within the developing field of behavioural finance. This ponder speaks to an extra exertion to assess the effect of behavioural biases on speculation decision-making inside the National Stock Trade of Pakistan. To attain this objective, an organized survey was created, and study reactions were collected from a test of 243 financial specialists. The investigator utilizes both expressive and inferential measurable strategies to analyses the information. The ponder centers on four key behavioural inclinations: overconfidence, securing, the mean impact, and grouping behaviour. The findings reveal that both overconfidence and grouping inclination have measurable positive and negative effects. These results recommend that personal financial specialists because of restricted monetary information, are more vulnerable to mental blunders in their venture methodologies. Besides, the ponder affirms the nearness of all four behavioural inclinations within the speculation choices of Pakistani financial specialists. The bits of knowledge picked up from this investigation are important for budgetary mediators and advisors, as they can way better direct their clients by considering these behavioural inclinations. Future investigations seem to grow upon this ponder by analysing extra behavioural inclinations and their impacts on speculation decision-making in Pakistan.

Keywords: Behavioral biases, overconfidence, anchoring, disposition effect, herding behavior, individual investors, Pakistan

Introduction

The two key concepts of the theory of rationality are the act of rationality and the rule of logic. suggests that individuals make decisions aimed at maximizing utility. Under the rule of rationality, individuals are presumed to adopt behavior that maximizes their expected utility, while under the act of rationality, they act in ways that yield the highest utility. In the context of Pakistan, this theoretical framework has important implications, particularly in the financial and investment sectors, where investors attempt to make choices that balance benefits and costs. However, the real-world financial environment in Pakistan often presents challenges such as market volatility, limited access to information, and sociopolitical uncertainty, which complicate rational decision-making.

This is where the concept of bounded rationality becomes highly relevant. Introduced by Herbert Simon and later elaborated by scholars such as Kinoshita, Suzuki, and Shimokawa (2013), bounded rationality acknowledges that individuals rarely have access to all the necessary information and often lack the cognitive capacity to process complex financial data. In Pakistan, investors—whether retail or institutional—frequently operate in markets influenced by incomplete information, lack of financial literacy, and emotional responses to socio-economic instability. As such, they are partly rational or even irrational in their decision-making processes.

The basic idea of behavioural finance questions the conventional wisdom that markets are always efficient and investors are always logical. The Efficient Market Hypothesis (EMH), which holds that investors are logical agents and that markets reflect all available information, is a major part of traditional finance.

However, real-world anomalies and investor behaviors in Pakistan—such as speculative trading, herd behavior during economic downturns, or responses to rumors and political shifts—often contradict this assumption. Behavioral finance, therefore, integrates psychological and sociological perspectives into economic decision-making and acknowledges how behavioural biases affect the actions of investors.

Behavioral finance pioneers like Richard Thaler, Amos Tversky, and Daniel Kahnem an have identified a number of cognitive biases that skew investor behavior.These prejud ices take many different forms in Pakistan because of social, cultural, and economic consi derations.. For instance, overconfidence bias leads Pakistani investors to believe in the accuracy of their judgments, often causing them to ignore market signals or professional advice. This can result in overtrading or investment in speculative assets, contributing to market inefficiencies and losses.

Another common bias in Pakistan's financial markets is herding behavior, where investors mimic the actions of others rather than relying on their own analysis. This behavior is particularly evident during stock market rallies or crashes, where the fear of missing out or losing drives collective irrational action. The phenomenon is exacerbated by the limited penetration of financial education and reliance on informal sources of advice, such as family, friends, or media. Anchoring bias is another frequently observed behavior in Pakistani investors. Here, individuals fixate on specific reference points, such as a stock's past high price, and base future decisions on those anchors, often ignoring current market realities. This tendency can lead to poor investment decisions, such as holding onto losing stocks in the hope that they will return to their former price.

The disposition effect, which refers to the tendency of investors to sell winning investments too early and hold onto losing ones, is particularly prevalent in Pakistan due to emotional attachment and loss aversion. Investors often avoid realizing losses, hoping for a market reversal, which rarely materializes. This behavior negatively impacts portfolio performance and demonstrates the importance of psychological factors in financial decision-making.

In Pakistan, where formal education about financial markets remains limited and where socio-cultural influences strongly impact decision-making, the relevance of behavioral finance is profound. Behavioral biases such as overconfidence, anchoring, disposition effect, and herding not only shape individual investment behavior but also contribute to broader market trends, volatility, and inefficiencies. While traditional finance focuses on what investors *should* do under ideal conditions, behavioral finance explores what investors *actually* do in real-world conditions, making it a more practical lens through which to analyze Pakistani investment behavior. As behavioral finance continues to evolve, it becomes increasingly critical for researchers, policymakers, and financial advisors in Pakistan to consider these biases when designing financial products, regulatory frameworks, and investor education programs. Encouraging a deeper understanding of these psychological factors can ultimately contribute to more stable and efficient financial markets in the country.

Literature Review

Although the field of modern finance has advanced significantly across the globe, it remains challenging to scientifically explain why individuals continue to behave irrationally when it comes to managing money (Smit & Moraitis, 2010; Mitroi & Stancu,

2014). In Pakistan, this challenge is even more pronounced due to a combination of socio-cultural, economic, and psychological factors that heavily influence investor behavior. The traditional finance paradigm, primarily built upon the Efficient Market Hypothesis (EMH), suggests that security prices always reflect all available information (Fama, 1970). However, the emergence of behavioral finance offers a contrasting perspective. It posits that markets are not always efficient and that investor decisions are often driven by cognitive biases and emotional reactions, leading to deviations in security prices (Cabral de Avila et al., 2016; Kaszynski's & Macys, 2010).

In Pakistan's context, the lack of widespread financial literacy, over-dependence on informal investment advice, and a deeply rooted culture of speculation in stock trading make behavioral finance a particularly relevant lens to understand market anomalies. With the increased participation of retail investors in the Pakistan Stock Exchange (PSX), behavioral finance focuses more on understanding investor psychology and how these mental frameworks influence the investment decision-making process (Liu et al., 2015).

One of the most influential and widely studied biases within this domain is overconfidence. It is considered a cornerstone of behavioral finance and is recognized as a major factor contributing to unusual market behavior and anomalies. Overconfidence arises when investors overestimate their knowledge, underestimate risks, and exaggerate their ability to control investment outcomes (Ko & James Huang, 2007; Prosad et al., 2018). In the Pakistani market, this bias is especially common among small and new investors who often believe their investment strategies or market predictions are superior—despite having limited technical expertise or data to support their decisions. This belief often leads them to ignore critical market indicators, diversify less, or engage in high-frequency trading that increases risk.

In local trading environments, confidence can quickly transform into overconfidence when investors rely on past successful trades or tips from unverified sources. For example, individuals who earn profits from stock surges or IPOs may attribute these gains solely to their own abilities, leading to future riskier investments. Such psychological patterns have been particularly visible during periods of stock market rallies in Pakistan, where trading volumes spike irrationally and investors show a tendency to overreact or underreact to economic news.

Leading scholars in the study of overconfidence, such as Kahneman, Tversky, Shiller, Shefrin, Barber, and Odean, have laid the groundwork for understanding how psychological biases can impact market dynamics. These insights are highly applicable in the Pakistani setting where market movements are often influenced more by sentiment, media hype, and speculation rather than by fundamental financial data.

Empirical research supports the link between overconfidence and increased trading volumes (Darrat et al., 2007; Phan et al., 2018; Mushinada & Veluri, 2018; Khan et al., 2017). This is highly relevant for Pakistan, where the correlation between trading activity and investor sentiment is strong, especially during events like budget announcements, political changes, or monetary policy shifts. Moreover, recent studies analyzing **structured retail products**—often marketed as innovative investment solutions—have found these instruments to be closely associated with behavioral biases, particularly overconfidence (Abreu & Mendes, 2018). In Pakistan, such products often

appeal to overconfident investors who are enticed by promises of high returns without fully understanding the underlying risks.

The development of behavioral finance has allowed researchers to better understand how cognitive biases like *anchoring* and the *disposition effect* shape investor behavior. These biases are especially relevant in emerging markets like Pakistan, where information asymmetry, lower financial literacy, and speculative trading practices are prevalent. Anchoring bias refers to the tendency of individuals to rely too heavily on an initial piece of information—referred to as the "anchor"—when making decisions. Studies have shown that people often make adjustments from the anchor rather than from an objective analysis of new information. Research has revealed that individuals resolve conflicts between past behaviors and current beliefs by adjusting their attitudes to match their beliefs, rather than altering behavior patterns (Kaustia, Alho, & Puttonen, 2008). This is especially relevant in the Pakistani context, where many retail investors base financial decisions on outdated or irrelevant benchmarks, such as prior stock price highs, rather than current market fundamentals.

In Pakistan's capital markets, where many participants are informal or first-time investors, anchoring often manifests in the form of "price memory." Investors anchor to prior stock prices, previous index levels, or outdated media recommendations, and thus fail to react appropriately to current valuations. For instance, it is common for investors to refuse to sell a declining stock until it "returns to its original price," an example of anchoring bias clouding rational judgment. This is further exacerbated by limited access to real-time, reliable financial data and over-reliance on hearsay or social media discussions in trading communities.

Empirical studies in global contexts, including experiments with students and professionals, have shown that anchoring can affect stock return estimations, especially among inexperienced individuals (Kaustia et al., 2008). While professionals tend to be less affected, Pakistani market conditions suggest that even many seasoned investors often exhibit anchoring behavior due to cultural tendencies toward reference-based decision-making and the influence of historical stock trends in investment discussions. Similarly, the *disposition effect*—the tendency to sell winning investments too early and hold onto losing ones too long—has been widely observed in investor behavior. This bias is rooted in the emotional discomfort associated with realizing a loss. In the Pakistani market, where short-term profit-taking is common and speculative trading dominates over long-term investment strategies, the disposition effect is prevalent across retail investors. Many investors display reluctance to sell stocks that are trading below their purchase price, waiting unrealistically for a recovery.

Studies from other emerging markets, like China and Taiwan (Chen & Kim, 2007; Chang, 2008), show that investors are more likely to sell stocks that have appreciated, and hold onto those that have depreciated, despite deteriorating fundamentals. This behavior mirrors that of retail investors in Pakistan's stock market, who are often driven by emotional biases and the psychological desire to "break even."

In the Pakistani context, especially in post-IPO trading, the disposition effect becomes even more pronounced. Similar to findings from the Malaysian IPO market (Chong, 2009), local investors tend to "flip" successful IPOs quickly to lock in gains, while holding onto underperforming IPO stocks in the hope of recovery. This pattern aligns

with the findings of Kaustia (2004), who identified a strong link between initial purchase prices and investor disposition behavior.

Moreover, socio-economic factors play a significant role in the manifestation of the disposition effect. Research by Dhar & Zhu (2006) showed that wealthier and more professional investors exhibited lower disposition effects. In Pakistan, where a large portion of market participants are middle-class investors with limited investment experience, the disposition effect is often magnified. These investors are more susceptible to loss aversion, and often operate without diversified portfolios, making every trade psychologically significant.

Technological advancements such as internet-based trading platforms have added new dimensions to these biases. While platforms like PSX's online trading portal have democratized access to capital markets, they have also intensified the emotional engagement of retail investors, as instant access to portfolio performance often reinforces short-term thinking. As seen in the research by Lee et al. (2008), in e-trading environments, disposition bias tends to persist regardless of potential future gains or losses. Furthermore, anchoring bias has been observed even in online bidding and pricing environments, where seemingly irrelevant or uninformative price references influence investor choices. In the context of Pakistan's growing fintech sector, where apps and platforms display "previous high" or "day change" prominently, anchoring bias is subtly encouraged. Investors often make decisions based on these prominently displayed historical prices, rather than deeper technical or fundamental analyses.

The herding effect—where investors mimic the behavior of others rather than relying on their own analysis—has also been a significant subject of investigation. An alternative approach to understand this behavior used an asymmetric risk-return model, revealing inverse feedback mechanisms in Asian markets, attributed to herding behavior (Bekiros et al., 2017). This is especially pertinent in Pakistan, where the behavior of institutional investors and large traders often sets trends that retail investors blindly follow. Market rallies in Pakistan are frequently amplified by such collective behavior, where stocks gain momentum based not on fundamentals but on crowd psychology.

A noteworthy study explored the herding tendencies among Muslim investors in Islamic banking, identifying herding as a primary driver of investment decisions. In Pakistan, where a large population prefers Shariah-compliant investment options, this finding is directly applicable. Faith-based trust in Islamic financial products often results in concentrated investments in a limited number of "Shariah-compliant" stocks or funds, with investors influenced more by community behavior than independent assessment. Further research has analyzed herding in relation to firm-level business cycles and exchange-traded funds (ETFs). Though ETFs are still a nascent concept in Pakistan, the potential for herding behavior—especially during high volatility—is significant. For instance, during periods of speculative bubbles or crashes, ETFs and mutual funds in Pakistan can see abrupt inflows or redemptions due to herd instincts rather than underlying asset value.

Experimental studies have shown that herding behavior varies by gender, with different levels of susceptibility observed among male and female investors (Lin, 2011). In Pakistan, although female participation in direct investing is still low, there has been a rise in women using mobile apps and digital banking for investment. Understanding

gender-specific tendencies could help fintech platforms design better advisory models and interfaces. Real estate, a popular investment choice in Pakistan, has also shown signs of herding behavior among property fund managers, especially in rapidly appreciating markets like Karachi or Lahore. Studies from abroad (Hall, 2016) indicate that herding may drive non-optimal portfolio choices, and similar patterns can be observed in Pakistani property funds and REITs, which are still in early development stages.

Moreover, institutional herding has been investigated in mutual funds and banks. One study highlighted how herding among mutual fund managers was influenced by "paper gain" and "paper loss" ratios. Such behavior harms overall investment performance and is often motivated by the desire to maintain consistency with industry peers. In Pakistan, where only a few large asset management companies dominate the mutual fund industry, similar patterns of herd-driven portfolio construction are observed, especially when one large fund alters sectoral allocations.

Interestingly, the research also showed that herding is stronger in certain loan categories, particularly housing and credit card loans, and more frequently observed in larger banks (Tran et al., 2017). With the recent expansion of Pakistan's housing finance sector and increasing competition among banks, this finding suggests that herd behavior could potentially distort lending criteria, particularly under government-backed schemes like Mera Pakistan Mera Ghar. Herding has also been studied in the context of market stress and oil price volatility, which are highly relevant for Pakistan. The stock market in Pakistan has shown a sensitivity to international oil price fluctuations, especially for sectors like energy and transport. In times of market distress, investors tend to move in sync, further enhancing volatility due to lack of individual analysis or access to accurate market information.

Based on the comprehensive literature review and existing empirical findings—especially in emerging markets like Pakistan where behavioral biases are prevalent in investor behavior—the following research hypotheses have been formulated:

- **H_1:** There is a significant relationship between behavioral biases and investment decision-making.
- **H_2:** Overconfidence bias has a significant influence on investment decision-making.
- **H_3:** Anchoring bias has a significant influence on investment decision-making.
- **H_4:** Disposition effect has a significant influence on investment decision-making.
- **H_5:** Herding bias has a significant influence on investment decision-making.

Research Methodology

A quantitative, cross-sectional research approach is used in this study to examine how behavioural biases affect Pakistani investors' decision-making process when making investments. The method enables a momentary examination of behavioural patterns at a particular moment in time. Primary data was gathered using a survey with a standardised questionnaire. Validated items from the body of existing literature were used in the questionnaire's design, which was then adjusted to take into account Pakistani investment patterns and local market conditions. Individual investors who participated in the Pakistan Stock Exchange (PSX) were the target population. Investors who used local broking firms and online trading platforms were also included. Using Cochran's method, the study's initial sample size was determined to be 385 respondents with a 95% confidence level and a 5% margin of error. However, only 243 totally completed

questionnaires were considered appropriate for research because of missing or incorrect replies. Due to time restrictions and investor accessibility—particularly for those active on social media investment forums and in physical broking branches in urban areas like Karachi, Lahore, and Islamabad—a convenience sample technique was used. Software called SPSS (Statistical Package for the Social Sciences) was used to examine the data. The statistical methods listed below were used:

Reliability Analysis

- **Cronbach's Alpha** was used to test the internal consistency of the questionnaire items.
- A Cronbach's Alpha value ranging between **0.70 and 0.90** is considered acceptable, indicating a reliable scale.

Descriptive Statistics

- Used to summarize demographic characteristics and general investment behaviors of the respondents.

Inferential Statistics

- **Correlation Analysis** was conducted to determine the strength and direction of relationships between behavioral biases and investment decision-making.
- **Regression Analysis** was carried out to evaluate the predictive impact of each behavioral bias on investment decisions.

Results and Interpretation

This chapter presents the empirical results derived from the analysis of the collected data. It includes interpretation of statistical tests conducted to validate the research hypotheses.

Reliability Test

The Cronbach's Alpha test was conducted to assess the internal consistency and reliability of the questionnaire items measuring behavioral biases and investment decision-making.

- The results revealed a Cronbach's Alpha value of 0.759, indicating a high level of reliability and internal consistency in the responses.
- Since the value is above the threshold of 0.70, it confirms that the measurement scale used in the study is statistically reliable.

Correlation and Regression Results

(You can follow this section with a detailed table and analysis for each hypothesis. I can help you write that based on your data output.)

Table 1. Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.762	0.740	5

Table 2. Investor's Demographic Profile

Demographic Components	Frequency	Perventage
Age		
18-25	82	35.78
25-30	74	29.1
30-35	16	7.48
Above 35	78	26.79
Gender		
Male	205	85.85
Female	31	11.76
Level of Education		
Undergraduate	56	25.76
Graduate	88	34.46
Postgraduate	81	37.9
Other	13	2.5
Profession		
Business	127	53.1
Salaried	114	49.2
Experience		
Under 5 years	90	38.19
6 -7 years	31	13.02
8 - 10 years	47	17.7
11 - 15 years	49	16.69
Above 15 years	32	13.19

Correlation Analysis

Table 3. Results Of Correlation

		Investment Decision Making	Overconfidence	Anchoring	Disposition	Herding
Investment Decision Making	Pearson Correlation	1	0.409**	0.378**	0.325**	0.402**
	Sig. (2-tailed)		0.000	0.000	0.000	0.000
	N	251	251	251	244	238
Over-confidence	Pearson Correlation	0.408**	1	0.499**	0.539**	0.463**
	Sig. (2-tailed)	0.000		0.000	0.000	0.000
	N	251	251	251	244	238
Anchoring	Pearson Correlation	0.378**	0.498**	1	0.614**	0.604**
	Sig. (2-tailed)	0.000	0.000		0.000	0.000
	N	251	251	251	244	238
	Pearson	0.327**	0.539**	0.624**	1	0.523**

	Sig. (2-tailed)	0.000	0.000	0.000		0.000
	N	244	244	244	244	238
	Pearson Correlation	0.402**	0.463**	0.604**	0.523**	
Herding	Sig. (2-tailed)	0.000	0.000	0.000	0.000	1
	N	238	238	238	232	

**. Correlation is significant at the 0.01 level (2-tailed)

Based on the correlation analysis presented in Table 3, it was found that all the selected behavioral biases exhibit a statistically significant and positive relationship with investment decision-making. This indicates that as the intensity of these biases increases among investors, their likelihood of making corresponding investment decisions also rises.

Specifically, the correlation coefficient between overconfidence bias and investment decision-making was found to be 0.409 at the 1% level of significance, indicating a moderate positive relationship. This suggests that when investors exhibit a higher degree of overconfidence—believing excessively in their own judgment or knowledge—their propensity to make investment decisions also increases.

Similarly, the anchoring bias demonstrated a correlation coefficient of 0.379 with investment decision-making, which is also significant at the 1% level. This highlights that investors who rely heavily on initial reference points or past information (anchors) tend to be more influenced in their investment choices, reinforcing the presence of a strong psychological anchoring effect in decision-making behavior.

In the case of the disposition effect, the correlation with investment decision-making was observed to be 0.326, significant at the 1% level as well. This positive relationship indicates that investors who are more likely to hold losing stocks for too long or sell winning stocks too soon (a hallmark of disposition bias) also tend to make more investment decisions driven by this behavioral pattern.

Finally, the analysis revealed a correlation coefficient of 0.402 between herding bias and investment decision-making, again significant at the 1% level. This implies that investors who are influenced by the behavior or decisions of others (especially during market uncertainty or volatility) are more likely to engage in investment decisions aligned with collective market trends.

Regression Analysis

Table 4. Regression analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.477[a]	0.236	0.218	0.6572

Predictors: herding, overconfidence, disposition, anchoring

The regression analysis presented in Table 4 highlights the results of a linear regression model, where investment decision-making is treated as the dependent variable, and the four behavioral biases—overconfidence, anchoring, disposition, and herding—are included as independent variables.

To evaluate the fitness of the model, the model summary was examined. The R-squared value of 0.235 indicates that approximately 23.51% of the variation in investment decision-

making can be explained by the selected behavioral biases. The adjusted R-squared value of 0.218 is closely aligned with the R-squared value, suggesting that the model is consistent and reliable, although the overall explanatory power remains modest. This relatively low predictability may be attributed to other influential factors affecting investment decision-making that were not included in the current model.

The F-statistic results, as shown in Table 5, provide insight into the overall significance of the regression model. The analysis confirms that the model is statistically significant, as the p-value (sig.) is less than 0.05, indicating that the combination of the independent variables meaningfully contributes to the explanation of investment decision-making behavior.

Table 5. Overall Significance

F	Sig.
13.889	0.000[b]

a.Dependent Variable: Investment decision-making
b.Predictors: (Constant), herding, overconfidence, disposition, anchoring

Table 6. Individual Significance

Unstandardized coefficients			Standardized		
Model			**coefficients**	**T**	**Sig.**
	B	**Std. Error**	**Beta**		
(Constant)	1.836	0.246		7.687	0.000
Over-confidence	0.260	0.072	0.292	3.769	0.000
Anchoring	0.127	0.079	0.144	1.736	0.085
Disposition	0.028	0.073	0.045	0.521	0.575
Herding	0.194	0.071	0.210	2.561	0.012

The results presented in Table 6 reflect the outcomes of the individual significance test. These findings indicate that overconfidence and herding bias significantly influence investors' decision-making, as their p-values are less than 0.05, confirming statistical significance. Conversely, the significance values for anchoring bias and disposition effect exceed the 0.05 threshold, suggesting that these two biases do not have a statistically significant impact on investment decision-making in the current study.

Discussion

The best way to invest in financial instruments and the degree to which past price trends can forecast future market behaviour are two fundamental questions that investors frequently struggle with when presented with a variety of investment possibilities. According to conventional financial theories, which are based on the rationality assumption, investors should make decisions with the goal of maximising returns and minimising losses (Ahmad Zamri, Ibrahim, Haslindar, & Tuyon, 2017). In actuality, though, people are frequently only partially rational and heavily impacted by illogical circumstances when it comes to their financial conduct. This irrationality is examined in behavioural finance, which contends that cognitive biases obstruct logical decision-making. Risk and uncertainty are inherent in investment decisions, as Slovic (1972) first proposed, and behavioural biases affect how investors view and react to these circumstances. These prejudices influence investor behaviour, which in turn affects how financial markets make decisions overall. The discipline of behavioural finance is based on behavioural biases, which connect market dynamics with individual psychology. Although

there are many biases, the present study concentrates on four main ones: herding, disposition effect, anchoring, and overconfidence. A survey of the literature reveals that traditional financial theories only make the assumption that people behave rationally when they have access to accurate and pertinent data. However, in the absence of such data, empirical research has repeatedly demonstrated that investors behave irrationally in repetitious patterns, especially when faced with risk and uncertainty. The research has extensively studied these four behavioural biases, particularly in connection with stock market activity and portfolio selection.

Their impact frequently leads to overtrading, high transaction costs, and less than ideal investment results. By demonstrating how and why investors make particular decisions—why they decide to buy or sell stocks, or even not act at all—the current study illuminates market psychology. Most investors still find it difficult to make decisions about their investments, and this study confirms that an investor's capacity to control behavioural biases has a direct impact on the results of their investments, such as gains or losses. With t-values of 3.759 and 2.561, respectively, our results show that overconfidence and herding bias have a statistically significant impact on investing choices. However, within the parameters of this study, disposition and anchoring biases did not have any discernible impacts on investing decision-making. Analysing the influence of four behavioural biases on individual investment behaviour was the main goal of this study. It is advised that future studies broaden their focus by investigating other behavioural biases that could provide more understanding of investor psychology, such as confirmation bias, loss aversion, or mental accounting. In order to provide a more thorough knowledge of how these psychological aspects affect financial markets collectively, future research could further widen their focus by examining the influence of behavioural biases on group or institutional investing decisions.

Conclusion

The field of behavioral finance has emerged as a response to the limitations of traditional finance, particularly in explaining the irrational behaviors and anomalies observed in financial markets. In the context of Pakistan, where financial literacy among retail investors remains relatively low and capital markets are still developing, the insights offered by behavioral finance are especially relevant. Unlike classical finance theories, which assume rational investors and efficient markets, behavioral finance suggests that investment decisions are often influenced by emotions, psychological biases, and imperfect information.

Behavioral finance challenges two key assumptions of traditional finance: (i) investors do not always update their beliefs accurately, and (ii) they systematically deviate from rational decision-making processes (Kishore, 2004). This perspective was notably shaped by the groundbreaking work of Daniel Kahneman and Amos Tversky, who in the 1970s and 1980s developed theories like Prospect Theory, highlighting how people perceive gains and losses differently under conditions of uncertainty (Kahneman & Tversky, 1979).

In the context of Pakistan's financial markets—such as the Pakistan Stock Exchange (PSX)—where market volatility, herd behavior, and speculative trading are common, behavioral finance offers a practical lens for understanding investor behavior. The present study aimed to examine how four major behavioral biases—overconfidence,

anchoring, disposition effect, and herding—influence investment decision-making among Pakistani individual investors.

The findings of this study reveal that overconfidence and herding bias significantly affect investment decisions, suggesting that investors in Pakistan tend to overestimate their own knowledge or predictive power, and often follow the crowd without conducting independent analysis. On the other hand, anchoring and disposition effect were found to have no significant influence, though this could be due to sample characteristics or specific market conditions during the study period.

This study reaffirms that Pakistani investors are not entirely rational in their investment behavior. Decisions are often made based on psychological shortcuts or emotional responses rather than structured financial analysis. Given the evolving nature of financial participation in Pakistan—especially with more retail investors entering the stock market and digital investment platforms—the role of behavioral finance becomes increasingly important.

Recommendations for Future Research

The current study opens the door for further exploration into other behavioral biases not covered here, such as loss aversion, mental accounting, confirmation bias, or regret aversion, which may have significant implications in the Pakistani context. Additionally, future research can explore the behavioral tendencies of institutional investors and mutual fund managers, as their decisions also shape market movements and investment trends.

Furthermore, analyzing investor behavior during economic crises (e.g., political instability, inflation spikes, or currency devaluation) could provide deeper insights into how emotional responses shape financial decisions in Pakistan. Such studies would be invaluable for policy makers, financial advisors, and investment educators aiming to promote better financial decision-making across different investor segments in the country.

References

Abay, K. A., Blalock, G., & Berhane, G. (2017). Locus of control and technology adoption in developing country agriculture: Evidence from Ethiopia. *Journal of Economic Behavior and Organization*, *143*, 98-115. https://doi.org/10.1016/j.jebo.2017.09.012

Abdin, S. Z. ul., Farooq, O., Sultana, N., & Farooq, M. (2017). The impact of heuristics on investment decision and performance: Exploring multiple mediation mechanisms. *Research in International Business and Finance*, *42*, 674-688. https://doi.org/10.1016/j.ribaf.2017.07.010

Abreu, M., & Mendes, V. (2018). The investor in structured retail products: Advice driven or gambling oriented?. *Journal of Behavioral and Experimental Finance*, *17*, 1-9. https://doi.org/10.1016/j.jbef.2017.12.001

Ahmad, M., Shah, S. Z. A., & Mahmood, F. (2018). Qualitative Research in Financial Markets. *Asian Review of Accounting*, *18*(1). https://doi.org/10.1108/ara.2010.34118aaa.002

Amir, E., & Ganzach, Y. (1998). Overreaction and underreaction in analysts' forecasts. *Journal of Economic Behavior & Organization*, *37*(3), 333-347. https://doi.org/10.1016/S0167-2681(98)00092-4

Aspara, J., & Hoffmann, A. O. I. (2015). Selling losers and keeping winners: How (savings) goal dynamics predict a reversal of the disposition effect. *Marketing Letters*, *26*(2), 201-211. https://doi.org/10.1007/s11002-013-9275-9

Barberis, N. (2002, September). A Survey of Behavioral Finance. *Journal Bureau of Economic Research*. https://doi.org/10.1002/rra

Bekiros, S., Jlassi, M., Lucey, B., Naoui, K., & Uddin, G. S. (2017). Herding behavior, market sentiment and volatility: Will the bubble resume?. *North American Journal of Economics and Finance*, *42*, 107-131. https://doi.org/10.1016/j.najef.2017.07.005

BenMabrouk, H. (2018). Cross-herding behavior between the stock market and the crude oil market during financial distress: Evidence from the New York stock exchange. *Managerial Finance*, *44*(4), 439-458. https://doi.org/10.1108/MF-09-2017-0363

Campbell, W. K., Goodie, A. S., & Foster, J. D. (2004). Narcissism , Confidence , and Risk Attitude. *Journal of Behavioral Decision Making*, *311*, 297-311.

Chang, C.-H. (2008). The Impact of Behavioral Pitfalls on Investors' Decisions: the Disposition Effect in the Taiwanese Warrant Market. *Social Behavior and Personality: An International Journal*, *36*(5), 617-634. https://doi.org/10.7748/nm2013.06.20.3.7.s9

Chen, G. M., Kim, K. A., Nofsinger, J. R., & Rui, O. M. (2007). Trading Performance, Disposition Effect, Overconfidence, Representativeness Bias, and Experience of Emerging Market Investors. *Journal of Behavioral Decision Making*, *2*(4), 425-451. https://doi.org/10.1002/bdm

Chong, F. (2009). Disposition Effect and Flippers in the Bursa Malaysia. *Journal of Behavioral Finance*, *10*(3), 152-157. https://doi.org/10.1080/15427560903167712

Daniela, K., Hirshleifer, D., & Teoh, S. H. (2002). Investor psychology in capital markets: evidence and policy implications. *Journal of Monetary Economics*, *49*, 139-209. https://doi.org/10.1007/978-3-642-39371-6-36

Darrat, A. F., Zhong, M., & Cheng, L. T. W. (2007). Intraday volume and volatility relations with and without public news. *Journal of Banking and Finance*, *31*(9), 2711-2729. https://doi.org/10.1016/j.jbankfin.2006.11.019

de Avila, C., de Oliveira, L. A., de Melo Silva Avila, A. S., & Jessica Rayse Malaquias, R. F. (2016). Behavioral

Biases in Investors' Decision: Studies Review From 2006-2015. *Revista De Gestao Financas E Contabilidade*.

Dhar, R., & Zhu, N. (2006). Up Close and Personal: Investor Sophistication and the Disposition Effect. *Management Science*, *52*(5), 726-740. https://doi.org/10.1287/mnsc.1040.0473

Dowie, G., & Willows, G. (2016). An investigation of investors' estimates of returns earned and the effect of anchoring on these estimations. *South African Journal of Accounting Research*, *30*(1), 29-40. https://doi.org/10.1080/10291954.2015.1021559

Dubra, J. (2004). Optimism and overconfidence in search. *Review of Economic Dynamics*, *7*(1), 198-218. https://doi.org/10.1016/S1094-2025(03)00036-X

Fama, E. F. (1970). American Finance Association Efficient Capital Markets : A Review of Theory and Empirical

Work. *Journal of Finance*, *25*(2), 28-30. https://doi.org/10.2307/2325486

Filiz, I., Nahmer, T., Spiwoks, M., & Bizer, K. (2018). Portfolio diversification: the

influence of herding, status-quo bias, and the gambler's fallacy. *Financial Markets and Portfolio Management*, *32*(2), 167-205. https://doi.org/10.1007/s11408-018-0311-x

Glaser, M., & Weber, M. (2010). Overconfidence. *Behavioral Finance: Investors, Corporations, and Markets*, 241-258.

Graham, J. R., Harvey, C. R., & Huang, H. (2009). Investor Competence, Trading Frequency, and Home Bias.

Management Science, *55*(7), 1094-1106. https://doi.org/10.2139/ssrn.620801

Gruber, M. J. (1996). Another Puzzle: The Growth in Actively Managed Mutual Funds. *The Journal of Finance*, *51*(3), 783-810. https://doi.org/10.2307/2329222

Heukelom, F. (2007). *Kahneman and Tversky and the Origin of Behavioral Economics.*

https://doi.org/10.2139/ssrn.956887

Huang, J. B., Tan, N., & Zhong, M. R. (2014). Incorporating overconfidence into real option decision-making model of metal mineral resources mining project. *Discrete Dynamics in Nature and Society*. https://doi.org/10.1155/2014/232516

Jahanmiri, M. (2018). Anchoring Bias a Criterion for Explain Profitability of 52-Weeks High and Momentum Strategies. *Pacific Business Review International*, *10*(7), 115-124.

Jaimovich, N., & Rebelo, S. (2007, May). Behavioral Theories of the Business Cycle. *Journal Ofthe European Economic Association*, 5, 361-368.

Joo, B. A. K. (2017). Influence of Overconfidence, Optimism and Pessimism on the Rationality of the Individual Investors: An Empirical Analysis. *Pacific Business Review International*.

Kabasinskas, A., & Macys, U. (2010). Calibration of bollinger bands parameters for trading strategy development in the Baltic stock Market. *Engineering Economics*, *21*(3), 244-254. Retrieved from https://www.scopus.com/inward/record.uri?eid=2-s2.0-77954648831&partnerID=40&md5=9ea6d964913a1d81 84969cf6a6c9702b

Kahneman, D., & Tversky, A. (1979). Prospect Theory: An Analysis of Decision under Risk. *Econometrica*, *47*(2), 263-291. https://doi.org/10.2174/1389203128035829 60

Kamoto, S. (2014). Impacts of internal financing on investment decisions by optimistic and overconfident managers.

European Financial Management, *20*(1), 107-125. https://doi.org/10.1111/j.1468-036X.2011.00624.x

Kaustia, M. (2004). Market-wide impact of the disposition effect: Evidence from IPO trading volume. *Journal of Financial Markets*, *7*(2), 207-235. https://doi.org/10.1016/j.finmar.2003.11.002

Kaustia, M., Alho, E., & Puttonen, V. (2008). How Much Does Expertise Reduce Behavioral Biases ? The Case of

Anchoring Return Effects Estimates in Stock. *Financial Management, 37*(3), 391-411.

Khan, M. T. I., Tan, S. H., Chong, L. L., & Ong, H. B. (2017). Investment characteristics, stock characteristics and portfolio diversification of finance professionals. *Borsa Istanbul Review*, *17*(3), 164-177. https://doi.org/10.1016/j.bir.2017.04.001

Kinoshita, K., Suzuki, K., & Shimokawa, T. (2013). Evolutionary foundation of bounded rationality in a financial market. *IEEE Transactions on Evolutionary Computation*, *17*(4), 528-544. https://doi.org/10.1109/TEVC.2012.2208465

Kishore. (2004, January 22-25). Theory of Behavioural Finance and its Application to Property Market: A Change in Paradigm. *TTwelfth Annual Pacific Rim Real Estate Society Conference.* Auckland, New Zealand.

Ko, K. J., & James Huang, Z. (2007). Arrogance can be a virtue: Overconfidence, information acquisition, and market efficiency. *Journal of Financial Economics*, *84*(2), 529-560. https://doi.org/10.1016/j.jfineco.2006.03.002

Krause, M., Shiller, V., Shleifer, A., Wilcox, D., & Shiller, R. J. (1970). Human Behavior and the Efficiency of the Financial System. *Handbook of Macroeconomics*, 1-34.

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

Lee, H.-J., Park, J., Lee, J.-Y., & Wyer, R. S. (2008). Disposition Effects and Underlying Mechanisms in E-Trading of Stocks. *Journal of Marketing Research*, *45*(3), 362-378. https://doi.org/10.1509/jmkr.45.3.362

Lee, J. S., Yen, P. H., & Chan, K. C. (2013). Market states and disposition effect: Evidence from Taiwan mutual fund investors. *Applied Economics*, *45*(10), 1331-1342. https://doi.org/10.1080/00036846.2011.617696

Lin, H. (2011). Elucidating rational investment decisions and behavioral biases : Evidence from the Taiwanese stock
market. *African Journal of Business Management*, *5*(5), 1630-1631. https://doi.org/10.5897/AJBM10.474

Liu, J., Jin, X., Wang, T., & Yuan, Y. (2015). Robust multi-period portfolio model based on prospect theory and ALMV-PSO algorithm. *Expert Systems with Applications*,*42*(20), 7252-7262. https://doi.org/10.1016/j.eswa.2015.04.063

Lowies, G. A., Hall, J. H., & Cloete, C. E. (2016). Heuristic-driven bias in property investment decision-making in South Africa. *Journal of Property Inve*
https://doi.org/http://dx.doi.org/10.1108/MRR-09-2015-0216

Ma, Q. Z., Wang, H., & Zhang, W. (2017). Trading against anchoring. *Review of Behavioural Finance*, *9*(3), 242-261. https://doi.org/http://dx.doi.org/10.1108/19405979201100005

Mello, B. A., Souza, V. M. C. S., Cajueiro, D. O., & Andrade, R. F. S. (2010). Network evolution based on minority game with herding behavior. *European Physical Journal B*, *76*(1), 147-156. https://doi.org/10.1140/epjb/e2010-00179-1

Mertzanis, C., & Allam, N. (2018). Political Instability and Herding Behaviour: Evidence from Egypt's Stock
Market. *Journal of Emerging Market Finance*, *17*(1), 29-59. https://doi.org/10.1177/0972652717748087

Michael C. Jensen. (1978). Some Anomalous Evidence Regarding Market Efficiency. *Journal of Financial Economics*, *6*, 95-101.

Mitroi, Adrian Stancu, I. (2014). Biases, Anomalies, Psychology of a Loss and Individual Investment Decision Making. *Economic Computation and Economic*

Cybernetics Studies and Research.

Mueller, A., & Brettel, M. (2012). Impact of biased Pecking order Preferences on firm success in real business cycles.

Journal of Behavioral Finance, *13*(3), 199-213. https://doi.org/10.1080/15427560.2012.708372

Musciotto, F., Marotta, L., Piilo, J., & Mantegna, R. N. (2018). Long-term ecology of investors in a financial market.

Palgrave Communications, *4*(1), 92. https://doi.org/10.1057/s41599-018-0145-1

Mushinada, V. N. C., & Veluri, V. S. S. (2018). Investors overconfidence behaviour at Bombay Stock Exchange.

International Journal of Managerial Finance, *14*(5), 613-632. https://doi.org/10.1108/IJMF-05-2017-0093

Niehaus, G., & Shrider, D. (2014). Framing and the disposition effect: Evidence from mutual fund investor redemption behaviour. *Quantitative Finance*, *14*(4), 683-697. https://doi.org/10.1080/14697688.2013.819114

Odean, T. (1999). Do investor trade too much. *American Economic Review*.

Odean, T., Strahilevitz, M. A., & Barber, B. M. (2010). Once Burned, Twice Shy: How Naïve Learning, Counterfactuals, and Regret Affect the Repurchase of Stocks Previously Sold. *SSRN*. https://doi.org/10.2139/ssrn.611267

Ormos, M., & Timotity, D. (2016). Unravelling the asymmetric volatility puzzle: A novel explanation of volatility through anchoring. *Economic Systems*, *40*(3), 345-354. https://doi.org/10.1016/j.ecosys.2015.09.008

Pelster, M., & Hofmann, A. (2018). About the fear of reputational loss: Social trading and the disposition effect.

Journal of Banking and Finance, *94*, 75-88. https://doi.org/10.1016/j.jbankfin.2018.07.003

Phan, T. C., Rieger, M. O., & Wang, M. (2018). What leads to overtrading and under-diversification? Survey evidence from retail investors in an emerging market. *Journal of Behavioral and Experimental Finance*, *19*, 39-55. https://doi.org/10.1016/j.jbef.2018.04.001

Philippas, N., Economou, F., Babalos, V., & Kostakis, A. (2013). Herding behavior in REITs: Novel tests and the role of financial crisis. *International Review of Financial Analysis*, *29*, 166-174. https://doi.org/10.1016/j.irfa.2013.01.004

Prosad, J. M., Kapoor, S., Sengupta, J., & Roychoudhary, S. (2018). Overconfidence and Disposition Effect in Indian Equity Market: An Empirical Evidence. *Global Business Review*, *19*(5), 1303-1321. https://doi.org/10.1177/0972150917726660

Qu, C., Zhou, L., & Luo, Y. J.. (2008). Electrophysiological correlates of adjustment process in anchoring effects.

Neuroscience Letters, *445*(3), 199-203. https://doi.org/10.1016/j.neulet.2008.07.061

Roger, P. (2009). Does the Consciousness of the Disposition Effect Increase the Equity Premium?. *Journal of Behavioral Finance*, *10*(3), 138-151. https://doi.org/10.2139/ssrn.969431

Rompotis, G. G. (2018). Herding Behavior among Exchange-Traded Funds. *Journal of Behavioral Finance*, *19*(4), 483-497. https://doi.org/10.1080/15427560.2018.1431886

Shefrin, H. (2001). Some New Evidence on Eva Companies. *Journal of Applied Corporate Finance*, *22*(1), 32-42. https://doi.org/10.1111/j.1745-6622.1999.tb00009.x

Shefrin, H. M., & Thaler, R. H. (1988). the Behavioral Life-Cycle Hypothesis. *Economic Inquiry*, *26*(4), 609-643. https://doi.org/10.1111/j.1465-7295.1988.tb01520.x

Shiller, R. J. (1997). *Human Behavior and the Efficiency of the Financial System.*

Shin, H., & Park, S. (2018, April). Do foreign investors mitigate anchoring bias in stock market? Evidence based on post-earnings announcement drift. *Pacific Basin Finance Journal*, *48*, 224-240. https://doi.org/10.1016/j.pacfin.2018.02.008

Shleifer, A. (2000). *Inefficient Markets.* Investopedia.

Singh, S. (2016). The Role of Behavioral Finance in Modern Age Investment. *Pacific Business Review International*, *1*(1), 234-240.

Slovic, P. (1972). American Finance Association.*The Journal of Finance*, *72*(6), 2889-2889. https://doi.org/10.1111/jofi.12597

Smit, H. T. J., & Moraitis, T. (2010). Playing at Serial Acquisitions. *California Management Review*, *53*(1).

Taffler, R. J., Spence, C., & Eshraghi, A. (2017). Emotional economic man: Calculation and anxiety in fund management. *Accounting, Organizations and Society*, *61*, 53-67. https://doi.org/10.1016/j.aos.2017.07.003

Tran, V. T., Nguyen, H., & Lin, C. T. (2017). Herding behaviour in the Australian loan market and its impact on bank loan quality. *Accounting and Finance*, *57*(4), 1149-1176. https://doi.org/10.1111/acfi.12183

Tversky, A., & Kahneman, D. (1971). Belief in the law of small numbers. *Psychological Bulletin*, *76*(2), 105-110. https://doi.org/10.1037/h0031322

Tversky, A., & Kahneman, D. (1973). Psychological Review. *American Psychological Association*, *80*(4). https://doi.org/10.1037/h0046234

Walters, D. J., Fernbach, P. M., Fox, C. R., & Sloman, S. A. (2016). Known Unknowns: A Critical Determinant of Confidence and Calibration. *Management Science*. https://doi.org/10.1287/mnsc.2016.2580

Wright, W. F., & Anderson, U. (1989, December). Effects of situation familiarity and financial incentives on use of the anchoring and adjustment heuristic for probability assessment. *Organizational Behavior and Human Decision Processes*, *44*(1), 68-82. https://doi.org/10.1016/0749-5978(89)90035-6

Yu, H., Dan, M. H., Ma, Q., & Jin, J. (2018, May). They all do it, will you? Event-related potential evidence of herding behavior in online peer-to-peer lending. *Neuroscience Letters*, *681*, 1-5. https://doi.org/10.1016/j.neulet.2018.05.021

Zamri, A., Ibrahim, H., & Tuyon, J. (2017). Qualitative Research in Financial Markets. *Asian Review of Accounting,*

181. https://doi.org/10.1108/ara.2010.34118aaa.002